Vol 8 No 6

June 1991
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The Australian COMMODORE and AMIGA REVIEW



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World of Commodore Show News

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Editorial



The World of Commodore Show is just around the corner (July 12-14). It's the Amiga show we have all been waiting for. Right now I have a pile of faxes in front of me from exhibitors from the United States who will be here next month. It will certainly be exciting to see a strong overseas presence here. Next issue we hope to bring you more detail on the seminars, exhibition layout and special events.

Right now we can tell you some of the products and companies which will be at the World of Commodore Show - check out Notepad for details.

Of course, the main attraction will be the launch of CDTV. We managed to get a sneak preview of one of the first units in the country and spent some time checking out a few of the applications which will be launched with the machine. See our feature story in this issue.

When CDTV arrives, you'll be able to buy it at a number of locations including computer stores. Commodore is pushing the device as a real mass market consumer home entertainment device. I have no doubt that this is certainly where CDTV is headed. The unit will look totally at home as part of an existing stereo system, or sitting atop your VCR. Trouble is, some in the family may not take too kindly to having *Neighbours* shunted to one side while you take to your multimedia space encyclopedia or joust your way through the CD quality sounds and standard HAM graphics of *Defender of the Crown*. So, CDTV may not surpass the television so easily. Many today are content with the passive entertainment television provides. CDTV requires user input.

Until the really catchy games and educational disks turn up, CDTV will probably only get a place in the study, or kids room. However, the entertainment titles coming soon will demand centre stage. They will not only be fun to play but also to watch. Only then will CDTV begin to edge its way into traditional television habits.

Perhaps the biggest potential lies in home grown applications - maybe an interactive multimedia version of *Burke's Backyard*, or the complete travellers guide to Australia. How about a Rugby League or Cricket disc which not only lets you play the game, but also includes years of statistics, classic moments, and a team database which works with the optional floppy drive. To make CDTV a truly mass market product it will need mass market appeal. At around $1495, the applications will need to offer something practical, something Australians can relate to, before thousands will go out and buy something which at first they will not understand the potential of. After all, CDTV is both a CD player with a computer inside it and a computer wrapped in a CD player casing.

Andrew Farrell

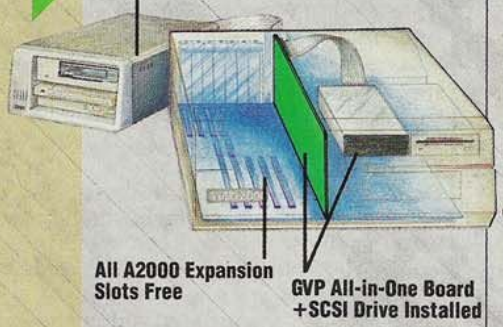
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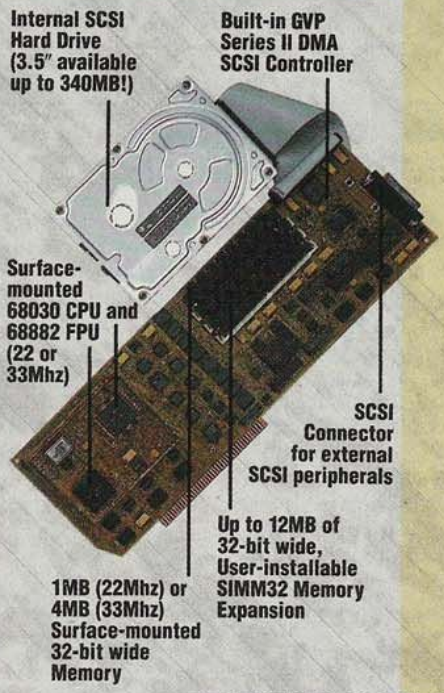
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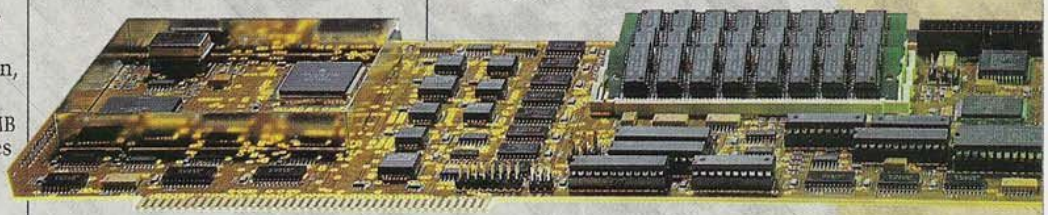
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Ram Rumbles

Commodore offers $5,000 for Education Grants

Commodore computers are offering $50,000 worth of education grants - a welcome contribution towards the ever increasing cost of educating children. During June, any family with school age children buying a Commodore Amiga from any retail point will be able to enter the draw. Ten education grants of $5,000 each will be awarded to the winners. Sounds like a good offer . . . how many more reasons do you need to upgrade to an Amiga?

NewMammoth Dataflow Catalogue

Broderbund, WordPerfect, Semantec, Origin, Maxis, Claris, Spinnaker, Unicorn, Gold Disk, Compu-Tech... a few of some 50 companies represented in Dataflow's new catalogue. All products are fully supported and backed-up right here in Australia, a point which has helped make the company such a success.

This year's publication is some 160 pages in full colour. There's a special new section featuring multimedia software. According to Dataflow, this burgeoning field is set to overtake several traditional computing areas as it offers the most exciting possibilities computer programmers and computer users have ever seen. Dataflow have a number of products in this area for the Amiga from companies such as Gold Disk.

Of course, there's also the usual range of educational products and even a few games. We spotted a couple of likely looking musicians in there too - with odd names like "Bigger" and "Beaze".

There's pricing on every product, and there's lots in there for C64 and Amiga owners including the Satchel range of educational programs.

For your copy call: Dataflow Computer Services, 134 Barcom Avenue, Rushcutters Bay 2011.

Amiga Music and Video Packs

Commodore have teamed up all the hardware and software you need to make the break into video or music and released two packs - Video PC and Amiga Music PC. As odd as the names might sound (using the word PC is bound to throw some off the scent), the packs sound like good value for money.

The Video pack includes a 1Mb Amiga 500, Alter Image genlock, cables, video software and clip art, fonts and Fusion Paint. There's also a specially prepared VHS video tape providing the newcomer instructions on how to prepare a computer video. RRP for the whole show is $1599. A short form version without the computer costs $749.



For music buffs the Amiga Music package contains the same 1Mb Amiga 500, MIDI interface, sequencer software, cables, instructional audio tape and retails for $1299 for the lot, or $449 for the computerless version. ❑

UPDATE COLUMN

Hi! By the time you read this I will once again be dragging my weary body through Exhibitions in Atlanta, Chicago and Taipei looking out for wonderful new products that we can bring you in the near future. I am sure in my next Update Column I will excitingly be bringing you oodles of new info.

Meanwhile, some bad news! The Cameron Hand Held Scanners will no longer be available. The manufacturer has signed an agreement with a German company to make trillions of IBM quality Mice instead of the scanners and we have four left at time of writing this column. After that and into the forseeable future there will be no more Amiga scanners with OCR. We will however be temporarily bringing in an Amiga Scanner without OCR and have been informed of another one to be released in June/July. I will of course keep looking for an OCR package to run with one of the scanners.

There are a couple of sales coming up that I think you should make a point of going to as I know there will be many products there, some of them well below cost. I am not sure of the dates but I know that in June both Harvey Norman and Computer Spot will be having sales, and I believe Harvey Norman are also having a software promotion in July. Keep an eye out on press, TV and in this magazine.

Educationally speaking I am pleased to inform you that we now have FUN SCHOOL 3 in French and we will be releasing several new programmes at the Amiga World Computer Show in July (we have our own Stand there). Please keep this under your hat, but we will be releasing RED SECTOR DEMO MAKER and FUN SCHOOL 3 on CDTV. We will also be releasing there a new range of very budget Amiga games. A couple of brilliant new games that we are releasing this month (may already be in the shops), are LUPO ALBERTO - THE VIDEO GAME, a great cartoonish arcade game: COHORT - a real time strategy war game the like of which I have never seen: AFRIKA CORPS - another great Impressions war game, and LORDS OF CHAOS - a "whopper" of a game (as reviewed by English magazines.)

I look forward to your company when I return. ❑

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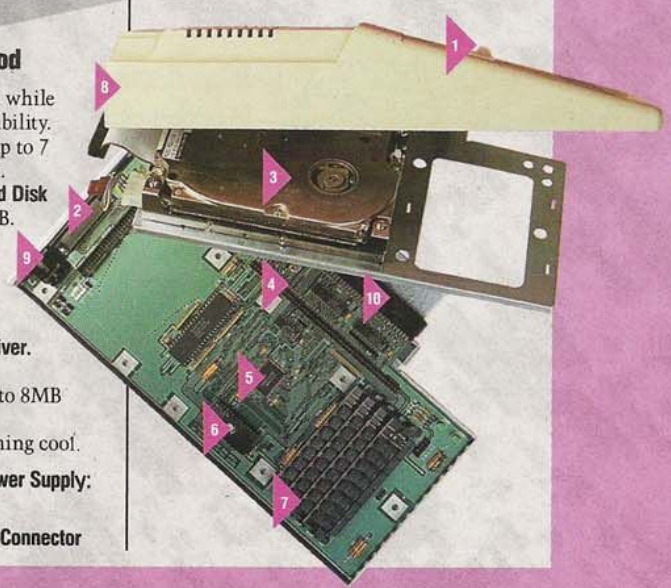
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Notepad

New Contact

Our all time favourite program for keeping track of important phone numbers and addresses is *Contact* - a locally published pop-up utility. A new version which is even better has been released. Version 1.2 is Workbench 2.0 compatible and is available to registered owners for $10. The new version includes *CalcKey 1.3* - a resident pop-up calculator.

New features include: autosave; entry highlighting; audio-tone dialling for auto-dialing without a modem; resizable window; hot-key alphabetic jump; auto-sort when adding new addresses; batch printing and numerous other minor improvements. Overall, a good improvement over the previous version and a very worthwhile program.

For more information call Frank or Joanne Keighley on (06) 239 6658.

The Amiga Goes CD Quality!

SunRize Industries has announced two new releases, Audition 4 and Studio 16.

Audition 4 is an advanced 8 bit sample editor that continues where Audiomaster III leaves off. It is a digital sound system that allows you to edit any sound in many new ways.

Studio 16 is a professional sound editing system that is bundled with one of two audio cards. It can turn your Amiga 2000/3000 into a audio digital workstation. Record hours of audio direct to hard disk synchronized with time code. The two audio cards come with DSP chips and ram. The AD1012 is a 12 bit card that is ideal for Audio for Video applications. The AD1016 is a 16 bit card for CD quality sampling and editing.

Contact SunRize Industries, 2959 S. Winchester Blvd., Suite 204, Cambell, CA. 95008 (408) 374-4962 or try Computermate on (02) 457 8388.

Interlink catalog disk

Interlink Software in Canberra have just released their first catalog cum disk magazine. This bi-monthly treat is crammed full of review articles plus info on how to order through Interlink's mail order service. A program is included with each issue - this month being *Amoeba*, the space invaders game. Software release dates will be included in the next issue. Price $3 if ordered with other products, plus $2 postage if ordered alone. Available from Interlink, 008 020 633.

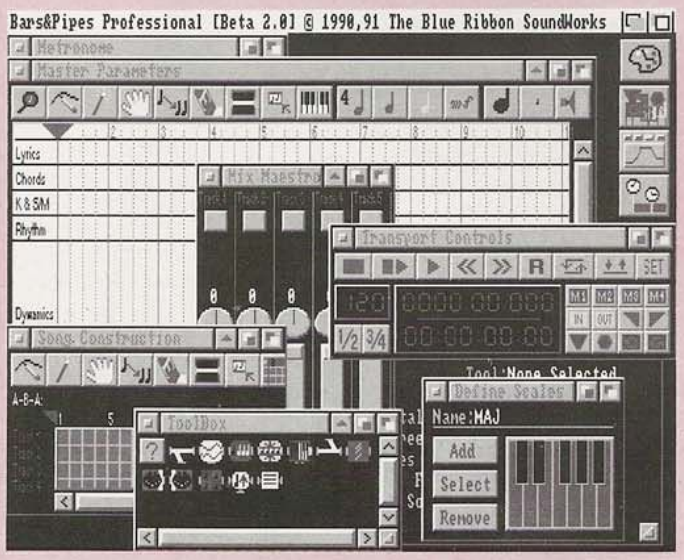
Bars and Pipes Professional

Blue Ribbon SoundWorks has given *Bars&Pipes* a major facelift, filled it with more amazing features and bumped up the price to create *Bars&Pipes Professional.*

The new version adds integrated music notation for both editing and sheet music printing. An event list editor has been included enabing direct text editing of all recorded MIDI data. The event list window is linked to the graphics editing window. Event list editing functions include insert, copy, cut paste, delete and editing with *Bars&Pipes* unique 'Tools' concept. Users can now choose to use either piano roll, enhanced staff, event list or music notation as their editing medium.

Another addition is Mix-Maestro which allows the automated graphical mixing of Midi tracks, including volume, panning and other specified Control Change parameters. The mixing movements can be recorded dynamically and played back with the performance.

System Exclusive data can now be recorded and edited using *Bars&Pipes Professional* and a new merge record mode has been included. The program has several new tools, including drum looping, which enables the looping of musical and rythmic patterns, Tempo Tap which allows the temp to be set by note input, rhythm Pattern Generator for creating drum patterns and other productivity tools.



Users familiar with the old version will immediately notice the new look of the product, although the feel is much the same. There's a number of new icons, relocatable and resizable transport, tracks, tools and editor windows. All these windows can be reduced to an icon when not in use.

Other amazing features (is there no end to what they've added!) include graphical tempo mapping and time-line scoring. For more information contact Dataflow on (02) 331 6153. RRP $549.95.

Gold Disks's All-In-One

Another entry level all-in-one package has been released by Gold Disk. All--In-One is a new and improved successor to the immensely popular Appetiser - which we have never seen in Australia. This is an ideal product for the first time Amiga buyer. From productivity to entertainment, Gold Disk's All-In-One lets you write, print, create music and even play games.

Write is an easy to use high speed word processor. Write notes and letters in just minutes thanks to the intuitive icon bar. Features include search and replace, cut, copy and paste, spell checking, document analysis, and multiple documents. Video preview lets you see what your document will look like before you print it to any preferences supported printer.

Paint has all the basic painting tools, including custom brushes, an airbrush, and full Amiga font support, fast scaling and magnification. There is also support

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At $99 retail, the package should prove quite popular. For more information call Dataflow on (02) 331 6153. Full review next month.

Product Upgrades

From: Computermate
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Photon Paint to Spectracolour

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Superbase X.xx to Version 4.0

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ProWrite 3.0 to 3.1

Return original ProWrite disks plus $15 (includes postage and handling). A few bug fixes and a couple of new features.

PageStream 1.6 to 1.8

Return original disks plus $15 (includes postage and handling). If you have just purchase version 1.8, send your registration card to the U.S.A address of SoftLogic immediately. Some users have already received a free upgrade to version 2.1. (A local upgrade path to version 2.1 will be announced soon.)

NB: Where not stated, add $9.50 to local upgrades and $12.50 for interstate upgrades to cover postage and handling.

From: Ramscan Software
P.O Box 267
Avondale Heights 3034
Phone/Fax: 08 254 2261

Audio Engineer 1.xx to 1.14

New features on this improved version include support for *Perfect Sound 3.0;* a lower price of $99; high sample rates of 38,000 samples/second in stereo or 56,000 samples per second in mono. The interface has a Wb 2.0 look and feel. You can upgrade by send in the original disk plus $5 postage and handling to the RamScan Software. ❑

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world of commodore AMIGA exhibition

july 12 - 14

Darling Harbour, Sydney

by Andrew Farrell

Final arrangements for the World of Commodore Show are under way. Commodore have worked hard to produce an exciting stand showing a range of products working in 'real life' situations. CDTV will be heavily featured on the Commodore stand.

A number of overseas companies faxed us regarding products they plan to exhibit at the show. Here's what you can expect to see:

Soft-Logik

Several new products will be on show including a drawing program, a bitmap editor, a word processing program and an inter-program communication system.

Soft-Logik will feature an exciting new structured drawing program. The drawing program will allow desktop artists the ability to use basic objects like circles and rectangles as well as the more complex Bezier curves. It will also have the ability to save files in EPS and IFF DR2D format for easy importing into programs like *PageStream* or *Professional Page*. The drawing program will support Adobe Type 1 outline fonts and will be fully compatible with all Amigas and Amiga DOS 2.0.

The bitmap editor will be a program that can edit pictures. It will, for example, read IFF ILBM pictures from 1-24 bitplanes, save any imported picture as a compressed IFF ILBM file and easily load pictures into *PageStream* via the inter-program communications system.

The wordprocessing program will allow you to type text and edit text as a separate document yet be able to import text into any *PageStream* document via the inter-program communications system.

The inter-program communications system will be the revolutionary new way for Amiga programs to share data and documents. It will allow two or more programs to share common pictures, text, numbers and other data even while the program creating the data or document is still editing it. Product names and pricing will be announced prior to product release dates.

I.C.D.

ICD will be demonstrating a range of their hard drives and controllers including the new Prima 52i and Prima 105i. Like the Novia 20i, these two units mount cleanly inside an Amiga 500 computer, allowing 52 or 105 megabytes of high speed storage that takes absolutely no desk space.

Prima replaces the Amiga 500's internal floppy mechanism with a high performance Quantum hard drive. ICD's new "Shuffle Board", a part of the Prima package, reroutes DF0: to the external floppy connector making any Amiga compatible external floppy drive act as a true DF0: device.

With this unique hardware combination, some advanced features will include autobooting from FastFileSystem partitions, high speed caching, auto-configuring, and A-Max II support. Prima comes with complete instructions and all the pieces necessary for a simple, clean, no solder installation.

Note: both packages require an A500 with switching power supply, one meg of RAM, and an external floppy drive.

Digital Micronics Inc - 33 & 60 MHZ Graphics Processors

The DMI family of High Resolution Graphics systems for the Amiga provides for between three to five times more addressable data, giving you a higher definition, high performance display system. Each board has programmable control up to its maximum resolution. With over 16 million colours available you will be able to display images that are near photographic quality.

The 1280 x 1024 x 24 plane system makes available the full 16+ million colour spectrum and over 1,300,000 pixels. The 1280 x 1024 x 8 plane system utilises the full 16 million colour palette with 256 active colours. The DM1010 system has available a Program Buffer Option that can be utilised to increase on board memory up to eight megabytes. The Extended Resolution Option increases maximum resolution to 1280 x 1024. The Video Memory Buffer Option, for the Dm1010 and Dm1020, doubles the amount of available Vram, providing for faster screen displays.

Both systems offer performance features that, until now, have only been available in higher end workstations. To support these high resolution systems, DMI has available a full line of quality monitors ranging from 13" to 25" and display systems all the way up to 10'.

Free Spirit

Free Spirit currently publishes over 20 titles for the Amiga and has just recently released its first CDTV title.

Among Free Spirit's diverse Amiga software offerings are the award winning *Barney Bear* series for preschool education, *Barney Bear Goes to School* is available for the Amiga and CDTV. Other *Barney Bear* titles include *Barney Bear Goes to Space*, *Barney Bear Goes to the Farm*, and, a new release, *Barney Bear Goes Camping*.

At the World of Commodore/ Amiga Free Spirit will be premiering a new educational title for children in the 6-8 year old age group.

Adventures in Math is an Amiga software program to teach young children addition, subtraction and counting skills. As with the *Barney Bear*

series, *Adventures in Math* utilises colourful graphics, amusing sound effects and entertaining games to teach children in a fun way.

Free Spirit will also be displaying its challenging new arcade/strategy title for the Amiga called *Abyss*. *Abyss* features multi-directional scrolling graphics, fully digitised sound effects and incredibly challenging puzzles.

For the more practical Amiga user, Free Spirit will feature *Ami. Alignment System* and *Doctor Ami.* two essential diagnostic utilities for the Amiga. *Ami. Alignment System* is used to diagnose mechanical and electronic malfunctions of Amiga floppy drives, *Doctor Ami.* is used to diagnose expansion memory, hard disk and floppy disk errors.

For playful adults, Free Spirit will have on hand its naughty and controversial best seller, *Sex Olympics*. The title says it all.

CDTV Application : Barney Bear Goes to School

Free Spirit have begun shipping *Barney Bear Goes to School* for CDTV. This is an interactive early education game for children ages two to six.

Barney Bear Goes to School makes full use of the CDTV medium with colourful graphics and multi-track audio. It consists of two parts. Storytime, that shows children how to get ready for a day at school, and Schoolroom, that lets children select and play many learning activities.

Through interaction, Storytime teaches children the benefits of a clean room, eating a good breakfast, and looking both ways before crossing streets as Barney Bear makes his way to school. The game asks children to identify objects on the screen and then rewards them for correct choices with an audio sound track response.

Once in Schoolroom, children may choose any of the learning activities as many times as they wish. These activities include spelling games, counting games, colours, shapes, and a colouring book. Here too, correct and incorrect selections are guided with a response from the audio track.

Barney Bear Goes to School for CDTV is being distributed by both Commodore and independant distributors into most CDTV retail outlets. It has a suggested retail price of $39.95 (U.S.). *Barney Bear Goes to School* is also available for the Amiga computer.

Free Spirit Software has been a Certified Commodore developer since 1984. Primarily a developer of educational and utility software for the Amiga and the Commodore 64 and 128, this is the company's first CD-based product.

GVP Revolutionary PVA Board

GVP are certain that this will be the highlight of the show and that demonstrations of this multifunctional colour enhancement system will attract intense interest.

Another product which will be featured by GVP is *SCALA*, a professional presentation software package that is also bound to generate excitement. Demonstrations of this program at shows in the U.S. have drawn huge crowds.

GVP will also be showing their newly redesigned accelerator boards. The 22 and 33Mhz versions are now SCSI controllers with 32 bit wide RAM, on one card, while the 50Mhz version is a two-board solution and is now user expandable to 32MB. Judging from the response in the U.S. to this brand new product, they feel that interest in the accelerator line will be overwhelming.

GVP will be attending the World of Commodore/Amiga show with their Australian distributor, Power Peripherals. The President of GVP, Gerard Bucas and Gregg Garric the Vice-President of Sales and Marketing will be present at the show.

GVP Redesigns 50Mhz 68030 Accelerator Board

GVP has announced the release of its redesigned 50Mhz 68030 accelerator board. Already the fastest board on the market, this new model will allow even more speed and expandability.

The accelerator comes populated with four megabytes of 60ns DRAMS and has the capability of expanding to 32MB of 32 bit memory. New, optional IDE/At drives available with the unit are the Maxtor 1" high 120MB drive or the half-height 340MB model. (Each have average access times of 17ms).

Another important feature of this GVP A3050 is that even with a full blown 32MB, 50Mhz kit installed in the A2000's "CPU" slot, all of the expansion slots are left free for unlimited future expansion.

The A3050 accelerator kit populated with four megabytes of RAM is available from authorised GVP dealers at a suggested list price of $2999 (U.S.).

GVP Multifunctional Colour Enhancement Board

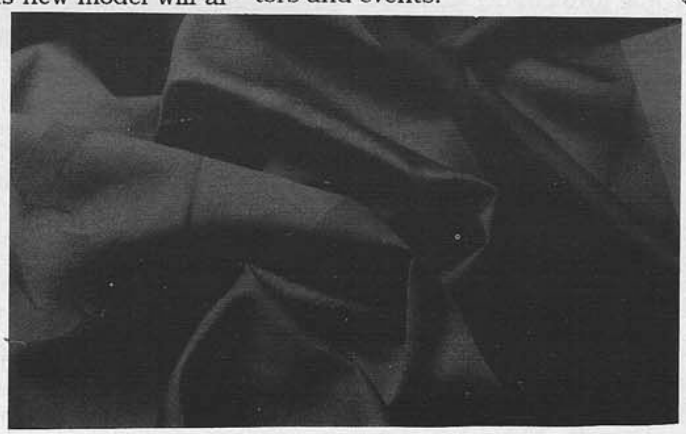
GVP has also launched a multifunctional colour enhancement board which will allow video professionals to create broadcast quality video pictures, images and animations.

According to Gerard Bucas, president of GVP, "Our PVA board can transform the desktop computer into an affordable professional video production studio."

The enhanced 24 bit colour resolution offers 16,000,000 colours, and also features a built-in digital keyer and flicker fixer. Also built into the unit is a frame buffer, and genlocks for both RGB analog and Composite video signals.

Known as the PVA3000/2000, the unit is designed for use with the Amiga 3000 and is also compatible with the Amiga 2000 by using a small video adaptor board. Included with the board is 3D rendering software, as well as a two dimensional 16,000,000 colour GVP paint package. Suggested manufacturer's retail price for the unit is $1999 (U.S.).

Be sure to buy next month's ACAR for a complete guide to show exhibitors and events. ❑

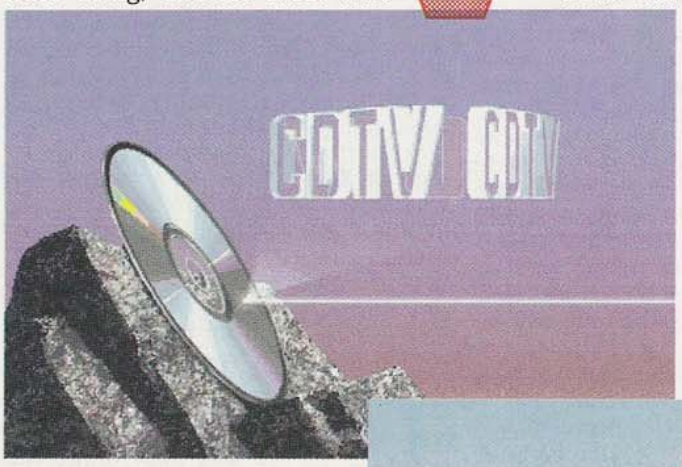


Background graphic from *SCALA*

Commodore Dynamic Total Vision (CD + TV = Mass Consumer Product) *A Full Review*

by Andrew Farrell

Two problems exist with current computer technology. It's still too daunting for many to consider using, and for those who are it is becoming limited by the demanding storage requirements of graphics, animation and sound. CDTV solves these two problems in a package so pleasingly presented it stands to win first place as the consumer electronics product of the decade.



CDTV is a cleverly named device which conjures up a vision of two understandable electronic devices - the CD player and Television. Of course, despite what the marketing boys intended, the unit does in fact combine the power of CD-ROM storage with the computing muscle of an Amiga 500. A single compact disc can store around 550 Megabytes of data. With this kind of storage coupled to the Amiga, incredible potential for real multimedia applications opens up.

You will be able to buy this device in Australia within the next couple of months at a cost of around $1495. That's low enough to put most potential Amiga buyers off buying an Amiga, and right onto CDTV which can easily be expanded to work just like an Amiga.

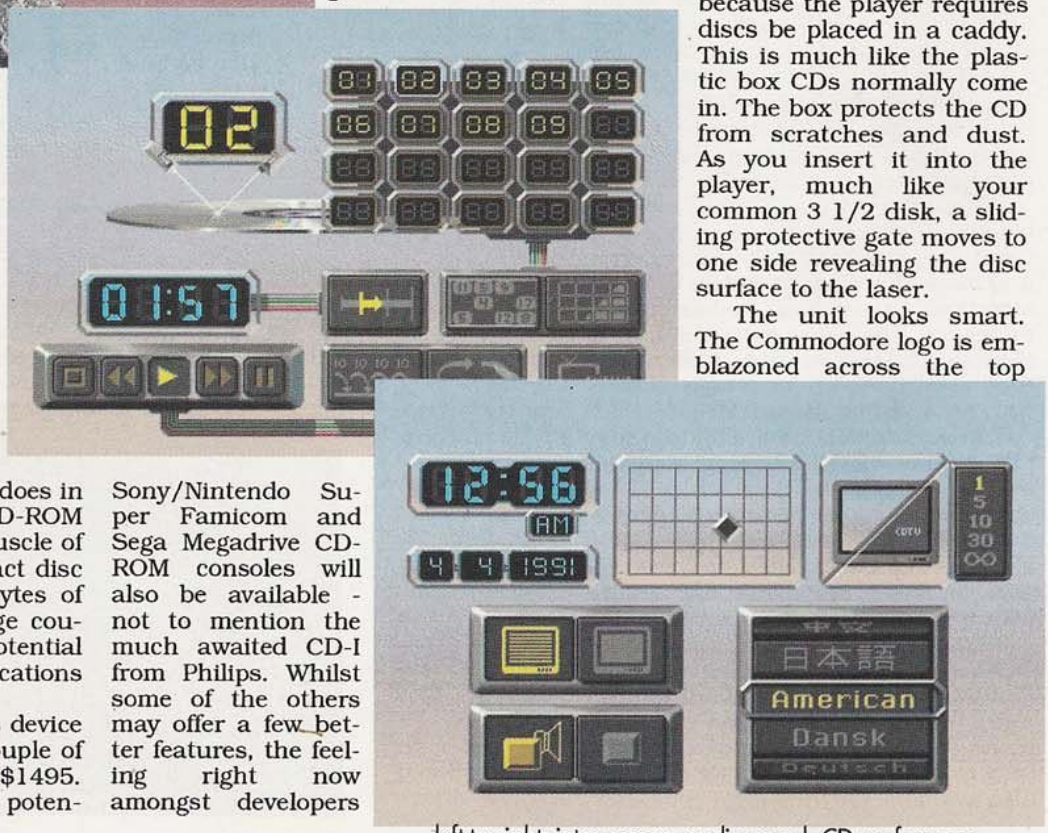
Other manufacturers will soon be joining the band wagon. CD-ROM technology has been around for some time - but CDTV provides a unique "one box" solution which offers the advantage of easy consumer acceptance thanks to its simple appearance. Fujitsu FM Towns, PC Engine and soon the Sony/Nintendo Super Famicom and Sega Megadrive CD-ROM consoles will also be available - not to mention the much awaited CD-I from Philips. Whilst some of the others may offer a few better features, the feeling right now amongst developers and industry observers is that Commodore is going to win the race.

Essential to CDTV's success will be the availability of exciting applications. Unlike the launch of most new technologies, because CDTV has been built using existing hardware and software, developers have been fast to create a new range of products to support the initial release. The next article looks at some of the CDTV applications which will be released shortly. However, first off, let's take a closer look at the hardware.

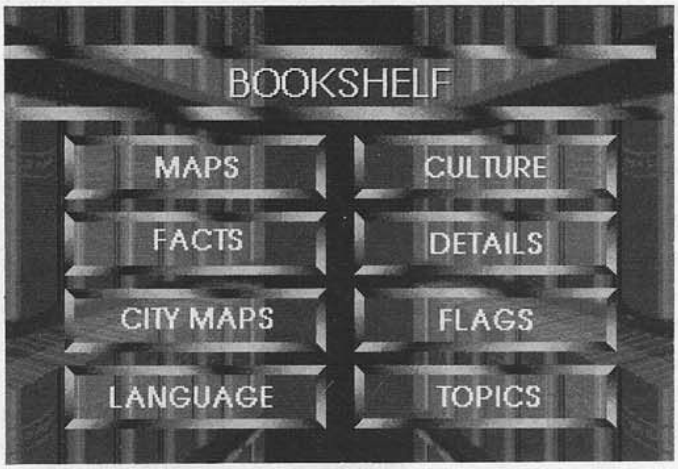
First impressions

A CDTV player looks like part of your hi-fi system. The door for loading discs is larger than most. This is because the player requires discs be placed in a caddy. This is much like the plastic box CDs normally come in. The box protects the CD from scratches and dust. As you insert it into the player, much like your common 3 1/2 disk, a sliding protective gate moves to one side revealing the disc surface to the laser.

The unit looks smart. The Commodore logo is emblazoned across the top



left to right: intro screen, audio panel, CD preferences



right corner of the front facia panel along with the words Interactive Graphics Player. The controls are much the same as your average CD-player with the addition of a reset button and volume level for headphones.

One look at the rear of the player and you quickly realise there's more to this beast than meets the eye. All the usual Amiga 500 expansion ports are included, plus MIDI in/out ports and a built-in RF-Modulator and S-Video connector. CDTV is ready to connect to your television, S-Video Monitor, stereo, MIDI-synthesiser or common Amiga peripheral. The only complaint I could file relates to the changing of the standard joystick ports to some weird looking round connector. Commodore tried this once before with the Commodore 16. The result was we never saw a decent joystick for the machine. Hopefully CDTV will be different.

A large infra-red remote controller is included as the standard control device. I found this to be fairly sensitive to which direction you pointed it, unlike the optional mouse which is easier to use and has a wider range of acceptable angles of use. On the standard controller there's a host of buttons. Working left to right you'll find a diamond cursor pad which works like a joystick, numeric keypad, Exit, Enter, control buttons for the player, a power indicator, volume control and two important selection buttons - A or B.

Kick back in your lounge chair and shuffle your way through the menus using the remote, or try operating *Defender of the Crown* with the sludgy diamond-cursor pad and you'll quickly wish for the old mouse. An infra-red mouse is available as an option and works very well. You can also add a host of other familiar items including a keyboard and two player controller - all using those wonderful infra-red beams which must be correctly pointed for good results. If you're wondering whether you'll be able to read what the screen says, so have Commodore. They've laid down very specific ground rules to developers on making applications functional, easy to understand and use - and that includes keeping the screens readable.

Up and running

Once your CD player is connected, you simply switch it on and pop in a disc. Notice that's disc with a C not a K. Commodore have decided the C variety are for the round ones you can only read from, whereas the K models are the homely read/write versions.

Once the disc kicks in, the Amiga boots up using a slightly modified Kickstart and few other fancy ROMs, then control is transferred over to the CD application - unless you have a floppy drive connected in which case it will attempt to boot it first.

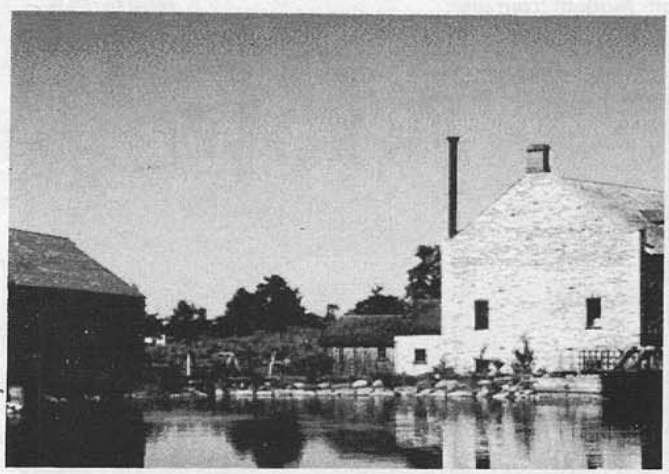
Included with the player is an introduction disk which provides a complete tour of the CDTV player along with examples of different applications and demonstrations of the player's capabilities. It soon becomes apparent that the player is no super fast disk drive.

With the player spinning at maximum speed, an application can start grabbing around 128K of data every second. Using some smart compression techniques, that speed translates to a lot of info, not to mention CD quality music - but at times it can be a little slow. Since the Amiga is essentially a multimedia machine anyhow, the additional of CD quality sound and some 550 Megabytes of storage makes everything that much better.

CDTV can present information using a multiplicity of medias. An encyclopedia can come alive with text connected to pictures, voice, animation and music. Several elements may be presented together or individually. Information can be communicated in a number of fashions. Suddenly, books start to look rather boring. Movies you can't participate in might start to seem limiting.

CDTV is blowing open the potential for entertainment and education far beyond the limitations of a simple video, far below the high-cost interactive video disc systems, far easier to use and cheaper to install than complex computer based methods. ❑

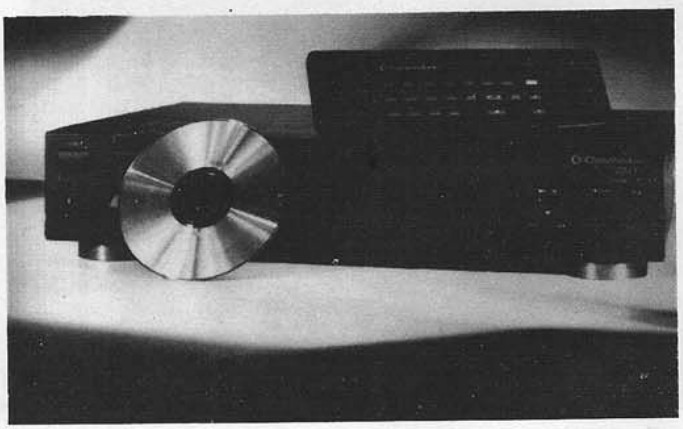




Commodore Dynamic Total Vision *System Specifications*

Central Processing Unit:
MC68000 (Motorola) 16/32-bit CPU
CPU speed:
7.15909 MHz (NTSC)
7.09379 MHz (PAL)
Memory:
1Mb (megabyte) chip RAM
2K non-volatile RAM (reserved for system - clock, prefs, etc.)
512K ROM
Internal Slots:
Intelligent video slot
(for optional genlock, RF board, etc.)
15 pin edge connector
DMA slot - for SCII, LAN, etc.
Video Outputs:
Analog RGB, Digital RGB (DB-23 connector) Composite video NTSC or PAL (RCA connector)
Component video Y-C
(S connector type for S-VHS and Hi8)
RF Modulated (F connector)
Optional genlock capabilities via plug in module.
Three-mode (CD, video source mixed) under software control.
Video Display (General):
400 lines / vertical frequency 60Hz (NTSC) 512 lines/vertical frequency 50Hz (PAL) Maximum 1Mb video memory (chip memory)
Palette for 4096 colors
Text Modes:
80 characters/25 lines
60 characters/25 lines
Various font sizes and types selectable
Screen colors user-definable
CD ROM Drive Specs:
Sony / Phillips type CD-ROM
standard mode 1, mode 2
Data readout from disc:
153 KBytes/sec (mode 1)
171 KBytes/sec (mode 2)
2 Megabytes/sec (burst)
Average access time:
0.5 sec
Maximum access time:
0.8 sec
Soft read error:
Less than 10e-9
Hard read error:
Less than 10e-12
Seek error:
Less than 10e-6
Commands:
CD-ROM, CD-Audio, CD+G
MTBF:
10,000 P.O.H.
Standard supported:
ISO-9660
Data Capacity:
550 Megabytes (approx.) (about 700 Amiga floppy disks)
CD audio specs:
8X Oversampling
Audio output:
External 1.4 VRMS, 10K OHM
Frequency response:
20-20KHz
Signal/Noise:
-75dB (typical)
Channel Separation:
-75dB (typical)
Harmonic Distortion:
0.08% at 1KHz
Maximum audio capacity:
About 14 hours - AM quality
Sample rate:
Variable from CD Audio rate (44KHz) to 6KHz
Dual 16-bit D/A converter plus 10-bit of attenuation
Rear ports:
Centronics Parallel interface
RS-232 Serial Interface
External floppy disk drive interface
(Amiga floppy disk drive compatible)
Hardwired alternative to IR for keboard, mouse, joystick,
2 audio output ports (RCA type plug) requires external audio amplifier
MIDI In/Out
Front port:
Stereo headphone jack
Port for optional personal RAM card (up to 64K)
Front panel display:
Fluorescent (white characters on black)
Time, track, and volume level
Clock remains lit when unit is turned off
Display controllable by application
Front panel controls:
Power on/off
Headphone volume Up/Down
Play/Pause
Stop
Forward/Reverse - Scan/Skip Reset
CDTV operating system:
Amiga Kickstart 1.3 in ROM
ISO 9660 File System Handler
High-speed decompression for graphics, audio and other data
IR (infrared) remote unit specs:
Proprietary high-speed IR signal
Power supplied by 2 AA batteries
10 function keys plus Shift key (20 total)
Up, Down, Left, Right movement buttons
Two select keys
CD-Audio - Reverse, Forward, Play Pause, Headphone Volume
Computer reset function
Optional accessories:
External floppy disk drive
Trackball (infrared)
Joystick (infrared)
MIDI In/Out, through (third party)
Personal RAM or ROM card
Genlock Expansion module to house hard disk drive,
modem, floppy disk drive
Keyboard IR interface with trackball
Keyboard Two player IR interface
Modem
Printer





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Citizen GSX-140 24 Pin Color Printer	**680-00**
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A500 2.0 Mb RAM Exp / switch / clock / 0.5 Mb	**180-00**
A500 2.0 Mb RAM Exp / switch / clock / 2.0 Mb	**340-00**
A500 4.0 Mb RAM Exp / switch / clock / 20 Mb	**380-00**
A500 4.0 Mb RAM Exp / switch / clock / 4.0 Mb	**595-00**
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CDTV Applications

Commodore have managed a world first! There will actually be worthwhile applications on sale at the launch of CDTV in Australia. Andrew Farrell reviews several in this first look at the working player.

Yet another new 'ware' has joined the list of jargon - Shovelware. Amiga programs shovelled across to run as CDTV applications. It sounds nasty, but after playing *Defender of the Crown*, an old favourite game of many early Amiga owners, I was convinced that even these old rehashed titles were a big improvement.

For a start the music is full CD quality stereo sound. Instead of pages of text, you can listen to the soothing tones of a spoken description of the game scenario. The graphics were much the same as before, a small disappointment, but then that's the trade-off for using shovelware. After a few minutes struggling with the infra-red controller, I quickly found the infra-red mouse was essential if you plan to make any progress in the jousting or sword fights.

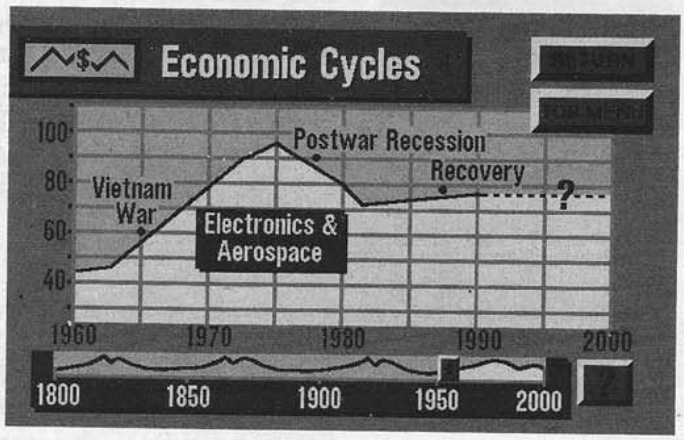
There will be many other shovelware titles at CDTV's launch, however, the point of this article is to take a closer look at a couple of applications which especially demonstrate the potential of this device.

Time Table of Science and Innovation

After shovelling *Defender* to one side, I sank my infra-reds into the more meatier *Time Table of History*.

This application uses a hyperengine developed by Xiphias, a company who are also involved in CD applications on MS-DOS and Macintosh machines. The engine provides the designer with a powerful group of program routines for accessing and cross-referencing a large database of information. In this instance, Xiphias have used their own engine to produce several applications for CDTV.

Once again I found this application was easier to use with the mouse. Several time lines of major time periods may be selected. You can then choose major events about which you hear a recorded commentry. To go to a specific event, choose the time period and select from the alphabetic list. Once information about an event is displayed you have a number of options.

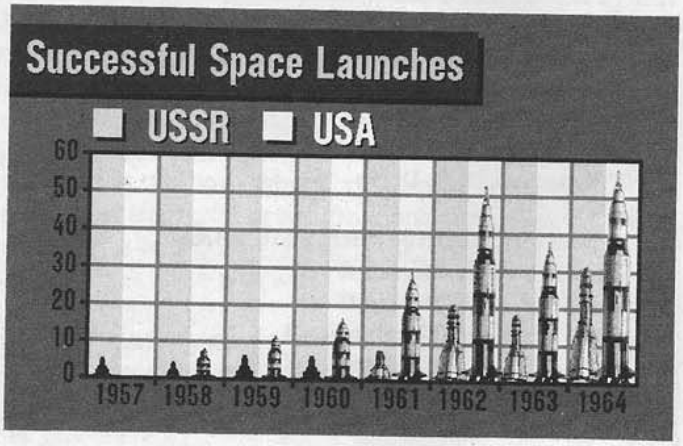


Icons down the right side of the screen provide access to additional information. This could include bibliographic references, eyewitness comments, prehistoric time line, altitude of event, electromagnetic spectrum, period table and more. Only icons with information relevant to the current event will appear. Most interesting is the audio/visual icon which means selecting it will display an short presentation of graphics and sound.

One event in particular which grabbed my attention was the first space walk. Viewing this event I was able to see a slow animation of the first space walk - a series of HAM images displayed at about one per second. In other animations, such as the shuttle landing the animation is faster, but the acompanying sound is interrupted whilst the CDTV player loads the next few frames. Although a little frustrating, it sure beats a book.

If you see a key word in the text you're viewing which you would like information about, or would like to view additional relating references, you simply select the word. All events associated are listed and you can now move on to a new event. This is called Hypermedia. It's one of the most powerful research tools you could hope to have.

After playing with the *Time Line* for the best part of an hour I found myself following whatever train of



pictures from *Time Table of Science and Innovation*

thought caught my imagination. The application let me take any direction I liked. A fascinating multimedia work which clearly demonstrated the power of CDTV.

Other applications

I wasn't able to view many other applications. I had a brief look at the *American Heritage Dictionary*. It added a few useful items beyond the usual function of a dictionary such as the pronounce option which had the Amiga "say" the word in question. The only problem was the rather American robotic sound to the resulting tinny pronunciation.

When you start talking about placing 30,000 articles, more than 9 million words, 2,000 pictures, illustrations and maps all on one compact disc, people sit up and listen. *The Grolier Electronic Enyclopedia* does just that - some 21 volumes of shelf consuming books fit happily onto a single disc.

Of course, the most exciting aspect of having so much information under your finger tips is the ease at which information can be located. Answers to questions could easily be located using multiple word search capabilities. Add a little hyperword power and the inquisitive mind could well spend hours simply browsing topics of interest. A brilliant learning tool for children and adults.

Future developments

A number of key software publishers have committed to making CDTV applications happen. A few notables include: Spectrum Holobyte, Merit, Icom Simulations, Xiphias, Applied Potical Media, Virgin, Mirrorsoft, Tiger Media, Free Spirit, Interplay and Dicus.

Recently a few other big names joined the ranks - developers and publishers - LucasFilm, Guinness, Psygnosis, Cinemaware, Accolade and Music Sales. Guinness plan on releasing the *Guinness CDTV Disc of Records*. Text will be enriched with the addition of audio, video, still pictures and animation. There will also be new sections covering Tours, Guides, Games and more.

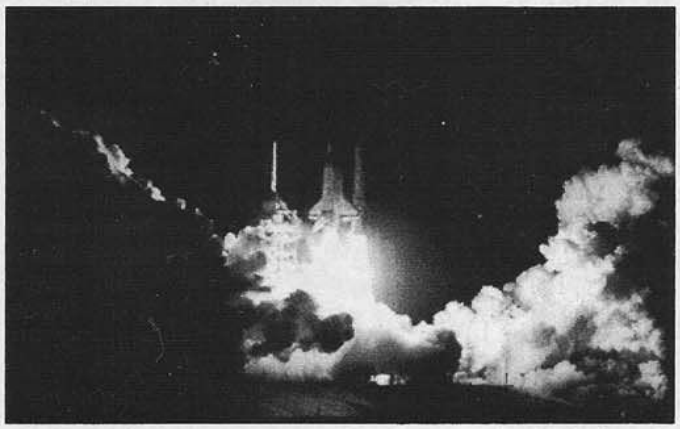
LucasFilm is scheduled to contribute three titles: *Indiana Jones*, *Loom*, and their new graphic adventure, *The Secret of Monkey Island*. Accolade is planning a special golf simulation feature The Golfer of the Century, Jack Nicklaus, who will challenge CDTV golfers in one of his most famous courses, Muirfiel Village. The course will be accurately recreated from 8000 digitial photographs of the actual course.

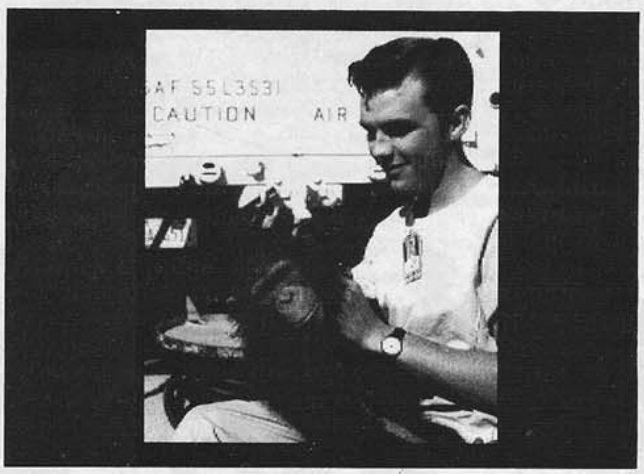
Cinemaware is producing a special pro football game, where play is augmented by real coaching opportunities. The user will be able to test offensive strategies against various types of defence, select players based on opponents' strengths and weaknesses and develop their own playbook. On gameday, *TV Sports Football's* realism will include sideline interviews, instant replay and cheering grounds. Psygnosis is developing improved graphics techniques for their arcade games even superior to the *Shadow of the Beasts* series. ❑

Psygnosis Break-Through

Ian Hetherington, joint-boss of Psygnosis had a few things to say about the whole 'interactive-movie' concept. He gets away with them because Psygnosis have made what they consider to be the first real CD-interactive movie / simulation.

As a games company, Psygnosis are confident they can do better than newcomers with movie experience. Concentrating on the best way to deliver degrees of interaction during a continuous running adventure, the company has produced a combat game which pumps out 20 frames per second in a resolution of 320 x 200 in 32 colours. Movie sequences link interactive portions which vary from 10% to 100% player control. The game features an advanced jet fighter, and complex fractal landscapes. Games like this will be easily adapted to run on any CD based platform. ❑







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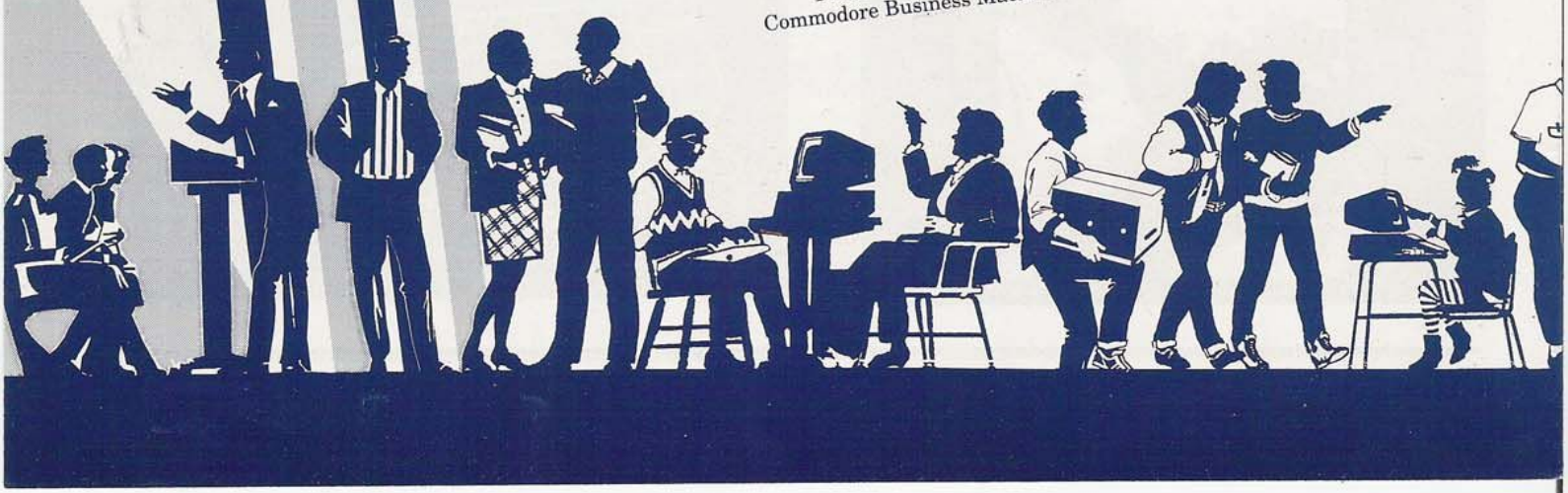
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YOU OWE IT TO YOUR KIDS

Initial CDTV applications library

A comprehensive selection of topics will be available on CD applications including reference, education, children's, women's, sports and leisure, self-improvement, adventure and simulations. The titles range from interactive versions of the *King James Bible* and the *World Vista Atlas*, to entertainment titles such as *Battle Chess*, *Sim City*, and *Sword of Excalibur*.

CDTV represents a major advance in technology and capability over any commercially available entertainment format, combining audio, video, graphics and computer interactivity into a single, Compact Disc-based system. The storage capacity of the Compact Disc is enormous -- the equivalent of more than 250,000 pages of typewritten text. For example, the complete *American Heritage Encyclopedic Dictionary*, fully illustrated, will fit on a single disc.

This storage capacity enables developers to engineer products which combine unparalleled levels of interactivity with vivid graphics and CD sound. The key is interactivity and immediate access. For example, the recipes in the CDTV version of the popular *Silver Palate* cookbook series (to be retailed as *New Basics Electronic Cookbook*) by Xiphias, provides the cook with step-by-step instructions, alternate seasonings, realistic "mouth-watering" images of the meal in progress, and the ability to recalculate portion sizes instantly. If the cook is planning a dinner party for 10 and then decides to invite two more guests, the program will adjust the ingredient amounts and cooking times accordingly. In addition, the program will "suggest" menus based on whatever combination of ingredients happen to be in the house at mealtime, as well as direct the cook to low-sodium or low-cholesterol recipes if desired.

Tiger Media's *Airwave Adventure -- The Case of the Cautious Condor*, is the first original entertainment title developed specifically for multimedia compact disc. It's an adult murder/mystery set in the 1930's, where the "player" has 20 minutes and 1500 possible paths to search rooms and interview characters in order to solve who had the means, motive and opportunity to "do the deed."

Discis has developed a variety of children's stories, including *Cinderella* and *The Tale of Peter Rabbit*, featuring the author's original illustrations and text, with added music and sound effects. The user has the option of hearing real human speech present the text orally with the words highlighted in phrase groups common to normal speech and speaking patterns. In addition, the user can point the remote control and click on a specific word and have it pronounced for them, click again for a definition, and again to have the word said in an alternate language (e.g., Spanish) if desired.

These first 35 titles represent just the beginning of the development of the CDTV library. The company and other developers plan to introduce additional titles on a regular basis, including *Murder Anyone?*, *North Polar Expedition* and *Family Medical Advisor*, among others. Several of the world's premier applications developers such as LucasFilm, Accolade, Cinemaware, Sierra On-Line, Virgin Mastertronic and Spectrum Holobyte have products in development for CDTV.

PRELIMINARY CDTV TITLES, LAUNCH, 1991

TITLE	DEVELOPER
HOME REFERENCE	
Gardenfax - Houseplants	Intersearch
King James Bible	Animated Pixels
World Vista Atlas	Applied Optical Media
The American Heritage Encyclopedic Dictionary	Xiphias
Family Medical Advisor	Digita
Time Table of Science & Innovation	Xiphias
Time Table of Business & Politics	Xiphias
Illustrated Works of Shakespeare	Animated Pixels
Japan World	TopClass Tech
CHILDRENS' CLASSICS	
Cinderella	Discis
Tale of Peter Rabbit	Discis
Scary Poems for Rotten Kids	Discis
CHILDRENS' STORIES	
A Long Hard Day at the Ranch	Discis
Moving Gives Me a Stomach Ache	Discis
The Paper Bag Princess	Discis
CHILDRENS' FUN	
Animated Coloring Book	Gold Disk
Snoopy	The Edge
All Dogs Go to Heaven (Electric Crayon)	Merit Software
EDUCATION	
North Polar Expedition	Virgin Mastertronic
Fun school (3 discs for different ages)	Mandarin
COOKING	
New Basics Electronic Cookbook (Silver Palate cookbook series)	Xiphias
THINKING GAMES	
Battle Chess	Interplay
Airwave Adventure --The Case of the Cautious Condor	Tiger Media
Defender of the Crown	Cinemaware
Classic Board Games	Merit Software
Many Roads to Murder	Vent
Murder Anyone?	Vent
ADVENTURE AND ARCADE GAMES	
Excalibur	Virgin Mastertronic
Space Quest III	Sierra-on-Line
Pacmania	Domark
Future Wars	Interplay
Xenon II	Spectrum Holobyte
SIMULATION GAMES	
Sim City	Spectrum Holobyte
Falcon	Spectrum Holobyte

Phoenix MOTHERBOARD

Amiga 1000 Strikes Back!

It is well recognised that the Amiga 1000 was a well designed machine. The way the keyboard tucked away under the casing, the pleasant slim design, smooth lines and quality feel. Even the tune it played when you powered up. Can the old A1000, which so warmed our hearts in the early days, keep up with Amiga's improving architecture? Scott Castledine contributed this complete review and guide to getting the legendary Phoenix board into your A1000.

We've all read the stories about how the A1000 would have problems keeping up with the new Amigas. Owners were going to face the prospect of an outdated machine - especially when the newer Amiga 500s and 2000s were to receive the Enhanced Chip Set (ECS) and operating system. The new Agnus chip wouldn't physically fit in the A1000! This was the first time I had really felt my Amiga was going to lag behind.

A large number of us were understandably upset the day Commodore announced the A1000 was to be discontinued. As did most users, I felt it was the best of the Amigas and filled the gap between the 500 and the 2000 perfectly! The article I read appeared on Megadisc. It went on to talk about a replacement motherboard designed by Andrew Wilson, the developer of the popular Proton memory boards.

The list of features offered by the Phoenix board was impressive indeed. Not only did the list state full ECS support, but went on to itemise some features that fulfilled quite a few A1000 owners' "wish lists". It included two megabytes of RAM on the Motherboard, with an option to add another eight megabytes on an internal daughterboard for a total of ten! Formerly, the A1000 had a maximum memory limit of 8.5 megs.

Because the new obese Agnus chip was to be included as part of the upgraded board, the first megabyte of RAM would be configured as CHIP RAM. This is memory directly accessible by the custom chips without interrupting the 68000 for graphics and sound manipulation. Thus larger samples and graphics bit maps can be dealt with.

Other features included a real time, battery-backed clock/calendar; now that was a nice feature I had always desired in the A1000. As I found out later though, SETCLOCK LOAD worked exactly as in an A500 or A2000, but when I ran Nic (Not Andrew) Wilson's SYSINFO program, it didn't show an internal clock existed.

There were to be sockets for up to three KICKSTART ROMs (or custom EPROMs) on the Motherboard which you could switch between, an internal drive socket allowing DF1: to be mounted internally (in a larger case of course), a switch option allowing you to boot from a drive other than DF0:, a software switchable audio filter like the A500/2000s, a socket for a 68881/2 math coprocessor, a 2000-type video slot for Flicker-Fixers, genlocks or a PAL Video Toaster (maybe), and finally a SCSI port on the board for hard disks, CD ROM and tape streamers. Later on, an option to purchase an inch-high 40 megabyte internal hard disk was added.

I was so impressed by what the Phoenix board seemed to offer that I sent off my deposit that very afternoon. If I was to show support for the Phoenix Motherboard, then I wanted to be one of the first to get one. As it was, I slotted in at number 82. This proved there was some good support and many others as interested as I was. Early depositors secured a 20% discount if Phoenix received their deposits before the end of November. Later, this deadline was extended to the end of December.

The Wait...

The article predicted quite a short wait. To quote, "Place a $100 deposit on the board with us, and in less than three months, you could have a new computer sitting on your desk". I calculated a delivery of around March 1990, April at the latest. I was wrong. Through no real fault of Phoenix Microtechnologies Pty Ltd, there seemed to be one problem after another, putting the delivery further and further back. Each letter from Phoenix would predict another shipment date, they would come and go without anything coming to fruition. Some of the difficulties reported in their thankfully quite frequent updates included a legal wrangle with Commodore over warranties. Apparently Commodore were figuring they would be responsible for service for some reason. At least that's how I read it.

The next problem caused by the warranties discord was an unwillingness by Commodore to supply the custom chips to Phoenix in the quantities required. Then, Phoenix needed to purchase a virtual memory CAD package for the circuit layout and design as the existing system couldn't cope. Finally, of course, there needed to be extensive testing and any hardware problems rectified.

The wait was so long, Phoenix offered depositors a refund on their money if they liked. It was for those that decided to buy an A2000 or 3000 instead of waiting for the board. Well, it wasn't a "refund", but an opportunity to put their deposits towards other Phoenix products and not be obliged to buy the board when it was finally ready. I was beginning to think I would never see the Phoenix Board.

Finally, Arrival

On 27 January 1991, I received a letter from Phoenix informing me of an impending dispatch of my board in three weeks - would I kindly forward the balance. I sent the cheque off the same day and waited. It ended up taking almost six weeks but on March 8, 1991, I received the Phoenix motherboard! It arrived at 9am by Express Courier.

My first impression was how professional the packaging looked, a box emblazoned with the Phoenix logo. I opened the box and wasn't disappointed. The board was well packed in foam and a static-free bag. Included was an instruction manual with a plastic cover, a bag of extra jumpers and option hardware (drive and KICKSTART switches), and two disks - "PHOENIX BOARD V1.2" boot/diagnostic disk and "PHOENIX BOARD SCSI" boot disk, both with printed labels.

I started to read the instructions which looked comprehensive and well organized. The first chapter presents

Continued on p25

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NEWS 'N' STUFF

Firstly many apologies to East Coast Amiga User Group for putting the incorrect date of their open day in May ACAR. Sorry folks.

For those Amiga heads who are into video, take a look at the newly published "Video Camera Magazine" which is Amiga oriented and has useful info on mixing video with Amiga. Impressive!

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an overview of the Phoenix Board features, some of which have not been documented before, including a quick paragraph on the benefits of the Obese Agnus and updated Denise chips and details of how the software switchable 7.5kHz audio filter worked. It also discribes an internal RS-232 connector. The video output from the RCA jack is now mono for better quality images when used with a monochrome VDU. At the end of the chapter there are descriptions of all the options the board offers.

Chapter 2 is the installation guide. It starts by explaining the hazards of static electricity and gives some recommendations on how to avoid it. There is also a comprehensive list of tools for the job and some other helpful hints.

Installation

As I read the guide I decided to disassemble my A1000 as I followed the instructions.

I unplugged all the cables and peripherals from the A1000, including the Sidecar. Upturning the system unit allowed removal of the five case screws which were standard Phillips-head, unlike the A500. Reinverting the unit, I removed the top cover and revealed the RF shielding. This had to be removed next. Under the RF shielding was the original outdated board, mine with the telltale NTSC daughterboard. The manual had diagrams of both the PAL and NTSC versions.

Removing all the screws holding the board in place and straightening the tabs on the lower RF shielding allowed me to to take the board out of the chassis. I placed it in the foam-lined box from which the Phoenix board came. It was time to remove the Phoenix board from its static-free bag and have a look at it. I placed it on top of the bag for study. The quality of this board far surpassed my expectations. I almost forgot about the long wait - it seemed all worth it now.

I decided to see if I could identify some of the features of the board. I saw the two rows of RAM chips, the square 68881/2 co-processor socket, the internal drive plug, the triple-row header for the RAM daughterboard, the expansion slot and the Obese Agnus were all readily spotted. I went to the manual and another detailed diagram to verify my guesses and to identify more of the features.

It was a matter of putting it in and seeing how well it worked. But firstly I had to exchange some chips from their old board. To save on costs, Phoenix decided to omit some chips from the board which already existed on the original. This way, we weren't doubling up on these chips. They were the two CIAs, the MC68000 CPU and the two custom chips - Denise and Paula. I carefully removed the 68000 and placed it on the static bag. Then I had to remove the NTSC board to allow extraction of the custom chips. After I had done this, I decided to remove the CIAs and place them directly into the new board, avoiding a mix up.

Now all that had to be done was to install the board into the A1000 system unit. I visually checked all aspects of the board and cleaned the 86 pin expansion connector with methylated spirits as suggested. I lined up the board and put it into place. Everything lined up and fit perfectly. The mouse and joy stick ports were a little tight, but that was the fault of the original case design.

I made sure all the tabs on the lower RF shielding were in the right slots. I twisted them to secure the shield. Installation of some screws to hold the board in place was performed before I mounted the floppy drive in its bay. All screw holes were perfectly placed and no modifications or force was required. I plugged the power from the large power supply unit into the board. It was basically ready to be tested.

RAM and ROM Options

At this stage, I saw no reason to install the KICKSTART swap switch, as I only had the one ROM on-board. I didn't need the drive swap switch to be installed for initial testing either. I checked to see all relevant jumpers were configured correctly. While reading the documentation for the jumper settings, I noticed that RAM could be configured 6 different ways depending on what you had installed. If you only had ONE Megabyte onboard, you could have configured:

1Mb of Chip and no Fast
512Kb each Chip and Fast
512Kb of Chip and no Fast

With TWO Megabytes installed a one, you could have 1Mb each of Chip and Fast, 1Mb of Chip only, or with the new SUPER Obese Agnus (as in the A3000) a full 2Mb of Chip RAM! Did you follow all that?

Hitting the Power Switch, I hooked up the monitor and plugged the computer into the mains. I then tentatively switched on. I held my breath and gritted my teeth. A couple of seconds and up popped the familiar Workbench hand prompt. I was impressed that I didn't have to insert a KICKSTART disk first.

I put the supplied Phoenix boot disk into the drive. It loaded for a while and all worked fine. There it was, a familiar Workbench screen with a shell window at the bottom. The title bar revealed 1.9 Megabytes of RAM. That was impressive. I browsed around the disk and found some files that tested the system. Running a program called "PBTEST". It checked RAM, set the clock, checked all ports, the audio filter and more. Rather thorough, I thought. I was also very pleased it did not report any

problems with the board. Next thing was to check the machine would run a game. It did so, without fuss.

So, in went the KICKSTART and drive swap options. A couple of quarter-inch holes above the keyboard connector - as suggested - allowed mounting of the switches. I found the diagrams for the KICKSTART swap switch a little confusing at first. It led me to believe I was looking at more than a four-pin jumper block. Because L42 is at the bottom of a larger row, you think the four configurations they have pictured in the manual are, in fact, the whole row of jumpers. Jumper L35 is not shown at all in their diagram. Just for those who can't find it: L35 is in front of chip U31, behind L12/13.

The drive swap was a lot easier to install. Just remove two jumpers and install the switch across them. All set to put the RF shielding back. Firstly, I had to add some supplied insulation to the back of it to prevent the exposed rears of the DB25 ports from shorting. The machine was reassembled and I plugged everything into it - including the Sidecar.

Sidecar sadness

The Sidecar was my interface to a hard disk. It housed a 33 Megabyte Western Digital drive with an OMTI RLL controller. I partitioned it with 21 Megabytes dedicated to AmigaDOS and the remainder of about 12 Megabytes, to MS-DOS. I tried booting my customised Sidecar disk. Everything looked fine and booted as usual. That was until the AMIGA tried to access the JANUS controlled hard disk, it couldn't find it.

I unplugged the Sidecar and cleaned the expansion connectors again. This was done a couple of times before realising there was a problem. The documentation insists there are a lot of problems with the Sidecar and its inherent lack of reliability. A phone call to Phoenix resulted in a conversation with Andrew Wilson himself. He assured me there were ways of fixing the problem with some chip replacement and fiddling about. I decided I would rather sell the Sidecar and get Phoenix's interface for an ST506 hard drive. That way I could use the existing drive for the Amiga at the expense of PC compatibility.

The Phoenix interface was a box that allowed an IBM style controller card to plug into the A1000's expansion port and control any ST506 type drive. I ordered one of these by supplying all the details of my setup so they could tailor the interface to my hardware. I received it a little over a week later.

ST506 Tricks

I plugged the box in and then installed the OMTI card. The hard drive unit was connected to them. I ran the supplied low level format program on the drive. All the defects that were listed on the hard drive's case showed up - BUT, there were a few new ones in obviously critical places! For this reason the defects list couldn't be written back to the drive. The software alerted me to this and terminated. I figured the drive was damaged accidentally when I took it out of the Sidecar. It was now useless for what I needed!

I decided, instead of buying a new ST506 type drive, I would see if I could get an auto-booting internal SCSI hard disk. After all, I did have a SCSI provision already in my computer - doing nothing. With my tail between my legs I rang Phoenix and explained there seemed to be no problem with their hardware, rather, with mine. This led me to enquire if I would be able to return the interface as a trade on their 52 Megabyte Quantum SCSI drive. The sums done, they were very helpful in allowing me to do the trade. A small rehandling fee of $30 was imposed, which I thought was fair, as Phoenix were under no obligation to take back the interface.

The Quantum drive arrived a week-and-a-half later. By this time it was the 28th of March. Busy with the new SCSI, I installed the hard disk as instructed.

I even bought the Tandy "Nibbling Tool" as advised. That's a great tool! I'd hate to have tried cutting the aperture in the RF shielding with a hack saw or tin snips. This tool made an extremely neat square hole with nice right-angled corners. Didn't even need to be filed, but I encourage you to touch up the edges with a file anyway. It even nibbled out the recess for the 50 pin plug cleanly and quickly. I recommend it to anyone, buy this tool to help installation of the internal hard disk if you decide to install one.

The final installation steps were to screw the brackets onto the drive and clean up the sticking surfaces of the RF shield with metho, plug everything in and stick it in place. I decided to test the drive before I put everything back together.

I booted the SCSI installation disk that was sent out with the Phoenix board. Then ran SCSI_FORMAT to do a low level format. It didn't work! It locked up just after starting. What was wrong? I didn't have a dud SCSI drive too? I rang Phoenix and spoke to Michael Warner, the author of SCSI_FORMAT. He informed me the version I received was an early one and he had since updated it for compatibility with the Quantum. I think he mentioned the version I had received was written for the Teac 40 Megabyte drive they had originally supplied.

On talking to Michael, I found out the original problem with my Western Digital drive was also with the ST506 "FORMAT" program he had written. It apparently had trouble with more than a few hard errors. Maybe my drive was alright after all? I decided to check. I had a retailer install my 33meg drive in a PC compatible and run an MS-DOS based low level format on it. He reported he had no problems. At least I could now sell it rather than just the controller.

Michael finished by telling me all the SCSI drives were low-level formatted and tested before leaving Phoenix. He added that I didn't have to perform that step. I could just MOUNT the drive and FORMAT it normally.

I did that by setting up a 20 megabyte MOUNTLIST for DH0: using FASTFILESYSTEM. I mounted that partition, then used the supplied QMOUNT command on two more partitions, another of 20 megabytes capacity and one of 12. Because I was not certain of the exact number of cylinders my drive contained, I MOUNTed DH2: with more cylinders than I calculated the drive had.

Then I did a complete cylinder by cylinder format on the partition. I waited until FORMAT reported it could no longer open the device. I noted the cylinder number it stopped at and made the previous cylinder the HighCyl for the partition. DH0: and DH1: were only formatted using the QUICK parameter.

The AmigaDOS INFO command showed two 19 megabyte drives and one at 10. But under POPINFO there were two drives, one being 20,478,976 bytes and the other 11,262,976. So don't be alarmed if you think you're not using the full capacity of your drive. I guess the AmigaDOS command, INFO divides by 1,048,576 (a true megabyte). Those capacities add up to 52,220,928 bytes in total.

The system was copied across to DH0:. Then SCSI_AUTO was run on it, which told me to reset the computer and "watch the magic". I did, and was suitably impressed. My computer booted from the hard disk and very fast indeed.

What would happen if I turned off my A1000, removed all disks and just turned it on again? I tried and was very happy to see my A1000 cycle through the self-test screens (flashes of grey and white) and then start booting. I had Workbench up in less than 20 seconds from switch-on (I have quite a few ASSIGNments in the STARTUP-SEQUENCE now, so it takes about 25 seconds). Not bad for an A1000. A computer that not long ago, needed a KICKSTART disk inserted first, then a floppy boot disk to start up a dinosaur-like system.

It used to take longer than three minutes for my system with the Sidecar to boot. That was less than a month ago. I now have a system on the edge of technology again! All I have to do is switch on the computer and the monitor, and before the picture tube has warmed up, I'm ready to go.

The computer has a much smaller footprint now that I have no need for the Sidecar. Just the neat A1000 case and monitor with an external drive alongside. I stuck the Phoenix sticker sent with the board to the front of the case. This informs all, there is an amazingly powerful machine humming away in front of them.

The setup configuration I am using at the moment is with the system-unit on its side resting on two brackets bolted to the side of my desk. The brackets were spaced so the front one sits between the rear mouse ports and the expansion connector and the rear one just aft of the expansion port. This allows the joy stick and mouse cables to exit their ports unobstructed and to plug anything into the 86 pin connector. The power switch is on the upper edge and easily accessible.

I have just the monitor, mouse and keyboard on the desk. The external drive sits horizontally on the upper side of the system unit and is easy to get to. I bolted the brackets on the desk so the drive is flush with the desk top. A couple of dobs of Blu-Tak keep the drive from moving about. Using my drive swap switch, I could boot from DF1: when and if I decide to play games. I don't need to get to the internal drive except when I'm doing a hard disk backup, so my system may as well stay like this.

Workbench 2.0?

Something I looked forward to when I got the new board was installing the new 2.0 operating system. I acquired a set of disks from a local retailer and installed all the files on DH2:. I then made the gigantic KICKSTART file (512K) and ran ZKICK. I had the Workbench disk in DF0:. I was going to write a batch file assigning the 2.0 system over to the hard disk partition later - if it all worked. Well, it didn't!

Workbench 2.0 was unable to load, although KICKSTART seemed to be loading for ages, but when it performed its own reset, I would find I still had version 1.3! Later, I discovered that ZKICK (and KICKIT) tries to place the KICKSTART file into RAM above address 200000. My attribute $5 (Fast) RAM starts at address C004C2 and ends at CFE7FF. This was no good.

I contemplated de-compiling ZKICK and seeing if I could change the start address, but decided I would rather wait for either the new KICKSTART 2.0 ROM or save up for the RAM daughterboard, which would start at address 200000. ZKICK was also written in Assembly which is NOT my forte.

Conclusions

In summary, I am extremely impressed with this Phoenix product. The service is quite good as you can speak to those who designed and built the board. They will answer any questions you may have and HAVE to know what they're talking about. I'm proud the Phoenix board is an Australian product. I just hope people support Phoenix Microtechnologies Pty Ltd and what they have to offer Australians and the rest of the world. Long live the A1000... ❑

COMPARISON CHART

Normal running conditions. Background utilities include ZOOM, POPMENU and FASTFONTS. Hardware on stock A1000 included, one drive and SIDECARattached. The PHOENIX A1000 included, one floppy and auto-booting SCSI harddisk attached.

	ORIGINAL	PHOENIX
RAM: (Bytes)		
WARM BOOT	285,104	1,763,568
"AVAIL" (MAX)	515,864	2,088,696
DPAINT Lo-Res, 32 Colours		
(CHIP)	57,448	771,600
(FAST)	0	743,152
(TOTAL)	57,448	1,514,752
EXPANSION:	86 Pin Connector 256K Expansion	86 Pin Connector Full Length A2000 Slot B2000 Video Slot 8 Meg RAM Board Connector Internal 50 Pin SCSI 26 Pin SCSI for External plug Internal Serial Port Internal Disk Drive Connector 68881/2 Co-Processor Socket
KICKSTART:	Disk	Up to 4 ROMS Onboard
REAL-TIME CLOCK:	No	Yes
BOOT FROM DF1:	No	Yes
AGNUS:	Original Only	Fat & Upward (Obese included)
AUDIO FILTER:	No	Yes
HARD DISK:	Janus Controlled 33 Meg	SCSI Controlled 52 Meg (17ms)

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Carmen in the classroom

Imagine arriving at school to find your teacher dressed up as "Carmen Sandiego"! Next the headmaster strides in as "Nifty Dan" and soon you are surrounded by the whole nefarious gang. No-one will be dropping rubbish in the playground today, but they will be keeping a watchful eye on their bus passes and bubble gum cards, you never know what this crowd will get up to!

Is this the shape of things to come or just the idle fantasies of a *Carmen Sandiego* fanatic? Who is to know? Perhaps it has already happened in a number of our schools.

In an attempt to keep up with the fast-moving style of today's TV programs and computer games, educators at times feel pressed by the competition. I know, as a teacher, I sometimes felt a tap dance while handing out the worksheets and standing on my head while marking the role was the order of the day. Educators, in the form of teachers, home schoolers or parents supplementing their child's schooling are facing an increasingly challenging task as they tackle the educational needs of their students and/or children.

One answer lies in the edutainment field. Books, computer programs and activities that are both educational and a lot of fun. The *Carmen Sandiego* series is probably the best known piece of "edu-tainment". After the famous *Where In The World Is Carmen Sandiego* we now have *Where In The USA Is Carmen Sandiego, Where In Europe Is Carmen Sandiego* and *Where In Time Is Carmen Sandiego*, enough to keep the little (and big) blighters "edu-tained" for quite some time.

The *Carmen Sandiego* series calls together many of the features of a superior educational tool. It suits differing ages, abilities and interest groups and it cuts right across the curriculum. It can be used by one student or a group of students, it can be worked on and then returned to at a later date, it can form the focus for a huge range of associated activities and it is a lot of fun.

Putting Carmen to work

How can educators use a program such as *Where in the World is Carmen Sandiego* effectively? One approach is to use the program only as a focus or even as a jumping off point to achieve the objectives of your program or curriculum. Don't make the mistake of concentrating on the software. Concentrate instead on your student's needs and relate them to the software.

Parents, home schools and teachers will find a wealth of ideas spring to life after playing a few games of *Where In The World Is Carmen Sandiego.* Keep in mind your students' interests as well as their needs and you will all have a lot of fun as you achieve your goals.

Some of the areas that Carmen lends herself to admirably include:

English - where students can be writing letters, designing news items to broadcast or print up in newspapers. Performing role plays, conducting debates and listening to evidence. They can be reading, writing, listening and speaking *Carmen Sandiego.*

Meanwhile the mathematicians can be calculating distances travelled at variable speeds, determining the total mileage and the cost of this trip. Exchange rates, 24 hour clocks and international time variations are all relevant.

The social scientists may examine the different cultures encountered, perhaps researching religions, currencies, major land marks, social customs, national dress and languages. Data bases can be established to assist your research. Maps, scale, direction, legends and good old Place Geography can all be studied with Carmen as a focus.

Other departments such as the Art Department will not be left out if they produce wanted posters, newspapers or travel brochures. All in all a wealth of valuable activities can be anchored around one piece of software.

The beauty of it is that each set of activities will be designed to meet the needs of the students involved. The students will hopefully emerge from their Carmen studies whether the course is one week or one year in length, with a love and respect for travel rather than a fascination for thieving and deception. Along the way they will have developed a number of skills and explored a wide range of curriculum areas achieving the specific objectives set by their teacher.

If a teacher (at home or in a school) is looking for an entertaining piece of software to link studies across the curriculum, I don't think you can go past *Where in the World is Carmen Sandiego.* ❑

by Anne Glover



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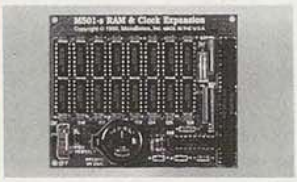
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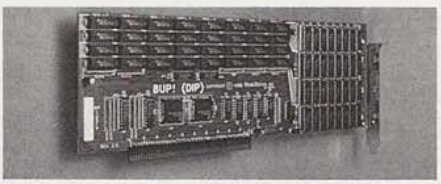


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WHERE IN TIME IS CARMEN SANDIEGO

by Anne Glover

After chasing Carmen Sandiego through your English, Maths and Social Science classes amongst others, as you travel halfway around the world in the pursuit of justice you come to the realisation that Carmen has really slipped your grasp this time. She is nowhere to be found, not in your world anyway. Carmen and her gang now have a new ally, a time machine to transport them through time and space. So now "we not only don't know where she is - we don't even know when she is!". *Where In Time Is Carmen Sandiego* is an excellent addition to the "Carmen Sandiego" series. It covers 1500 years of history and twelve different countries across seven continents.

Like *Where In The World ...*, you are commissioned by the ACME Detective Agency to catch Carmen and her nefarious gang as they move through time and space pillaging and plundering. Napoleon's hat, Guy Fawkes' gunpowder and Galileo's telescope are some possible targets. Will this band stop at nothing! With Gene Yuss, Russ T Hinge, Earl E Bird and Earnest Endeavour on Carmen's side your task will not be an easy one.

After signing on, the Chief will issue your assignment. You will be told which treasure has been stolen, when and where it was removed from it's rightful place in time and space. You must set off without delay, your time is limited. To win the game you must:1. Track the criminal to his or her hideout in one of 48 possible locations. By using the clues, with a bit of research you will be able to start tracking the dastardly devil.

2. Identify the criminal using the scattered clues collected during your travels to allow a warrant for his or her arrest to be issued and the arrest to be proceeded with.

To provide a bit of added assistance you are issued with a New American Desk Encyclopedia to plough through for a few essential clues. You will need to be quite proficient in your delving or enlist the help of a colleague as your time allowance will quickly evaporate and the hoodlums will escape. On screen, a capture robot is supplied to bag your prey after the warrant has been issued.





The Chronoskimmer is your most useful piece of technology; it allows you to travel through time and space as well as to electronically scan the crime scene for clues and to translate conversations. All pretty heavy duty for the new recruit, but this search for such amoral criminals is a serious business. If we mean to find them in this technological age we need to be one step ahead of the criminal mind and the criminal's technology.

Old hands from previous *Carmen Sandiego* escapades will take no time at all to become familiar with the situation at hand. The new recruit enters the Agency as a Time Cadet. After a few successful cases under your belt your progression up the ranking will begin. However as you are promoted the cases become more difficult. An outstanding super sleuth will be inducted into the hall of fame and eventually be retired from action to live a peaceful life with a well deserved annuity. Those who cannot live without the thrill of a chase are welcomed back under an alias.



Teachers will be pleased to know that up to 24 games may be saved at any one time, giving all your budding Time Cadets a chance to develop into Super Time Sleuths. However this game will more often be played by groups of students when it is in the classroom situation. Working as a co-operative and efficient group, students will be able to pit their historical knowledge and research skills against the likes of Lynn Gweeny, Nosmo King as well as Carmen, to achieve a short term goal.

Conclusion

Another great game in the *Carmen Sandiego* series. This time giving a taste of History as well as Geography. Like its predecessor *Where In The World Is Carmen Sandiego, Where In Time..* lends itself to having a wealth of educational activities, across many areas of the curriculum, built around it. A great piece of "edu-tainment".

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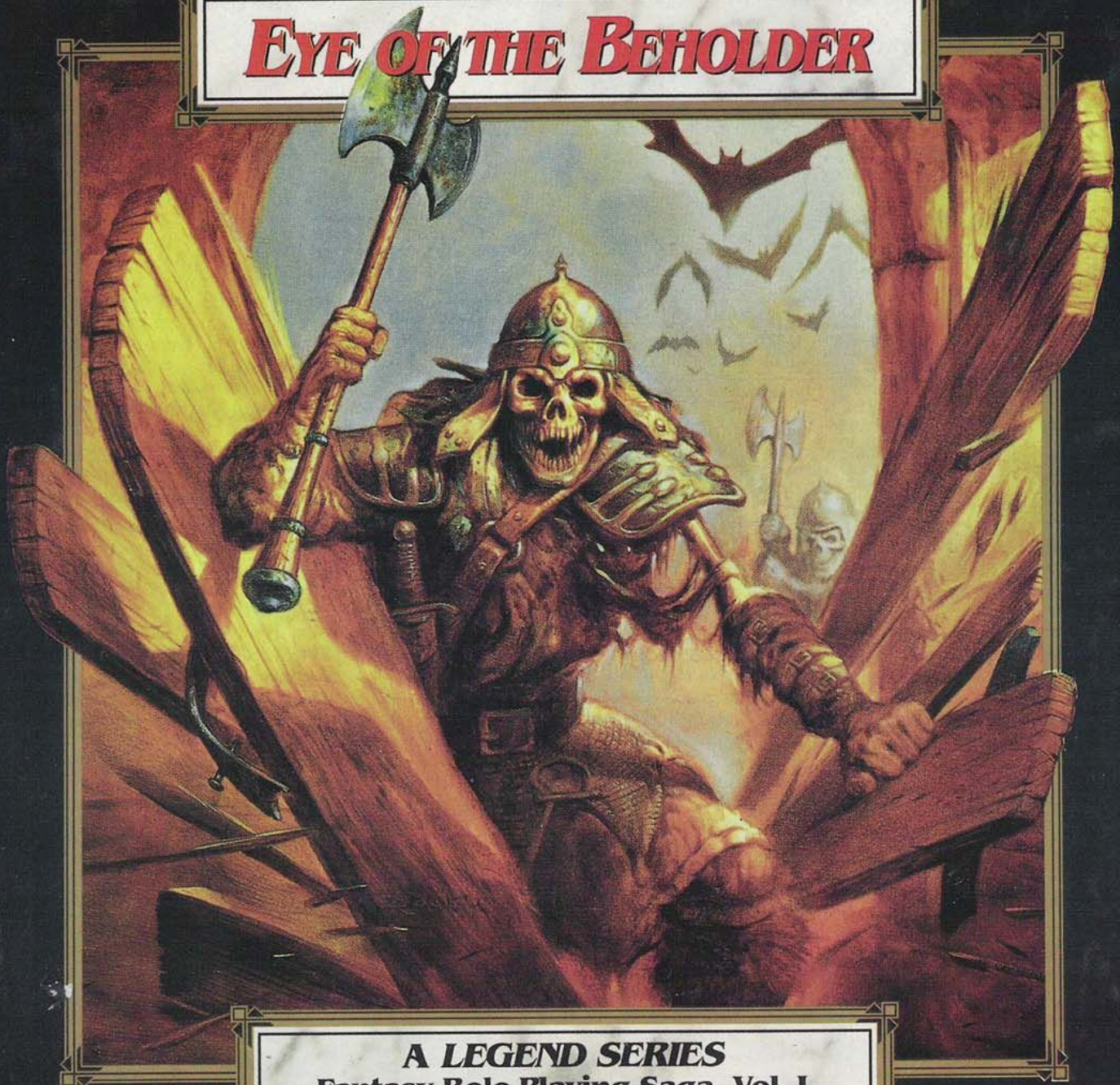
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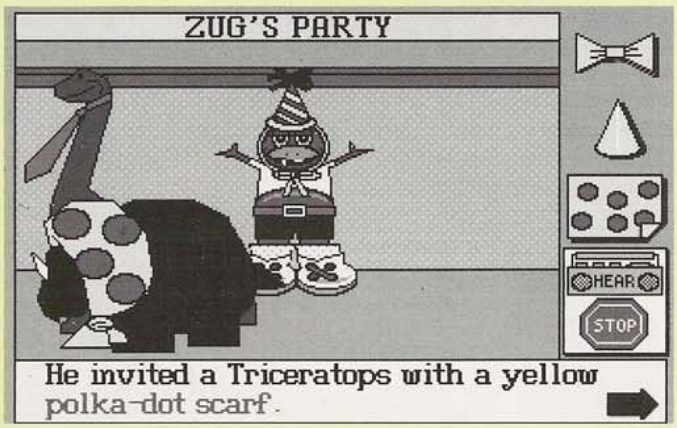
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Dinosaur Discovery Kit



Zug the Megasaurus in jeans and a baseball cap presents... *Dinosaur Discovery Kit*. This program has fast become an institution in our household. It is simply known affectionately as "Zug". I have been known to dig around in the disk box for an infuriatingly lengthy amount of time trying to find "Zug". Only after checking the box do I remember that the title of the much desired disk is *Dinosaur Discovery Kit*. My junior reviewer, who is often swamped with software and doesn't hesitate to give programs the "bit boring" rating, gives "Zug" the ultimate accolade (for a 4-year-old) of "it's really great, I just love it".

"Zug" would probably be a more appropriate title for this piece of software. At least I would be able to find it before the 4-year-old does her own "finding" and scatters disks like frisbees in the wind! It is not, as its title suggests, a huge wealth of information on dinosaurs, nor is it any sort of database on dinosaur facts.

"Zug" is actually a more general educational program with a heavy emphasis on pre-reading and early reading skills development. The box tells us that such early reading skills as: picture word connections, visual memory, visual discrimination, colour discrimination, problem solving, reading simple sentences and short stories are covered using "Zug".

This program is designed for 3-8 year olds and is another excellent talking program out of the First Byte stable. Children in the lower end of that age range will enjoy it immensely as they develop their skills, children in the upper end of that age range will also have fun as they improve their skills further.

Your child's name can be entered into the program, so that with a bit of phonetic help from you Zug will be talking to your child.

Dinosaur Discovery Kit has three activities to choose from:

1.Story Maker: Here children can create and illustrate a story by selecting from a choice of graphics. Each time a sentence is presented with the last word missing. The child is required to select from a choice of two or three different symbols to complete the sentence to their liking. There are no wrong answers. For example "One day Zug decided to have a party at (his house) or (in a park)" and so the story goes on, with the child guiding the direction and content from a range of options. Each time the completed sentence is presented and the associated picture appears on the screen.

With three stories to choose from, each with about ten sentences and three different options, a multitude of different stories can be produced. As you can see they are fun stories about Zug and not heavy facts about a Megasaurus. Once the story has been completed the child can hear their story again and again if they wish. They can see the pictures and make a print-out of the story only, or of the story and the pictures together.

2. The Colouring Book: A number of large and realistic (not cartoon) dinosaurs are available for colouring and printing. An interesting fact about the chosen dinosaur is also presented. Twelve colours can be used to fill the parts of the dinosaur and six dinosaurs are available to choose from.

3. Dinosaur Match: This is a matching game like "Concentration" where "real" dinosaurs, their shadows or even Zug in fancy dress can be selected as the figures to be matched. Options include a choice from 10 to 18 cards, playing on your own, with Zug or with a friend. If the child chooses Zug as a playmate he can ask him to be "silly", "smart" or "very smart" depending on the level of difficulty desired.

Conclusion

Dinosaur Discovery Kit is an excellent piece of "edu-tainment" for young children. This one won't be gathering any dust on the shelves, it is a lot of fun. While it doesn't cover the widest range of educational activities, what it does do, it does well.

Don't expect the children to learn a lot about dinosaurs using this program as its main objective is to teach and reinforce pre-reading and early reading skills. Dinosaurs provide the vehicle to achieve this objective in a playful manner and let's face it, kids just love dinosaurs! ❑

by Anne Glover



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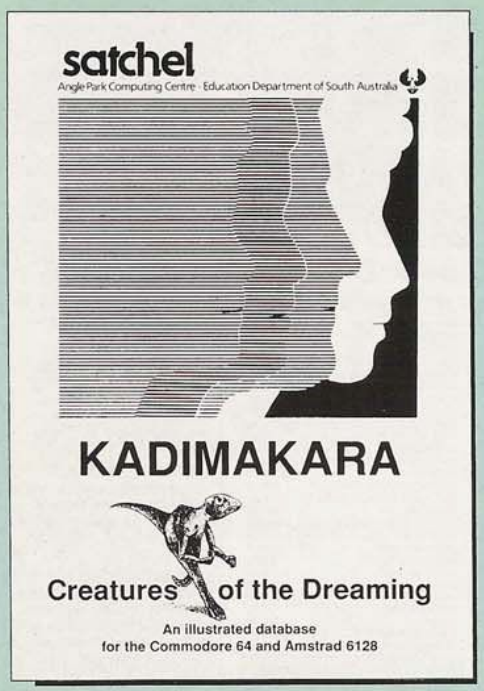
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IF YOU ARE LOOKING for some real Dinosaur facts, *Kadimakara* may be the program for you! *Kadimakara* is a database of Australian prehistoric fauna, which allows you to discover the world of the giant amphibians, the dinosaurs, the mega marsupials and more. Fifty members of Australia's prehistory are covered in this program. Designed for upper Primary and lower Secondary School children, it is ideal for use in the classroom or library context and was designed and developed by "Satchel" (of the S.A. Department of Education).

This is a completely different program to the *Dinosaur Discovery Kit*, it has quite different objectives and it should reach a different market. *Kadimakara* allows Australian students to become conversant with the fascinating and incredible fauna of their own country's prehistory. Up until now most Australian children were much more familiar with the fauna of North America's prehistory simply because more had been written and produced about it. *Kadimakara* is an attempt to address this imbalance.

The fauna of Australia's prehistory is as fascinating as that of any other part of the world. With Kronosaurus - the largest marine reptile ever found, Dromornis Stirtoni - the largest bird ever known and Megalania Prisca - a 7 metre long goanna, and so it goes on. A really fascinating part of our prehistory that up until now was an under - resourced topic.

As a database it doesn't have the razzamatazz of many other educational programs, with basic pictures and maps with habitat details etc. provided. This is not a pretty program, it is however an informative and useful one. It will need a bit of thought to put it effectively to use. No plonking the kids down in front of the Amiga and leaving them to it with this one!

This program should form an integral part of a learning experience and as such needs some planning by the teacher to provide it with a useful context. It is a part of the lesson, not the lesson on its own. This program demonstrates one of the many roles of the modern day teacher. After determining the needs of the students and his or her objectives within the guidelines of the appropriate educational authorities, resources need to be gathered, evaluated then modified and or combined to assist in achieving the original objectives. The old days of relying on one text book are long gone in most subject areas.

As well as providing information on Australia's prehistoric fauna, *Kadimakara* can be used to study English, Maths, Social Science, Art and Science. An excellent booklet is provided for teachers on request.

Further, *Kadimakara* can be used to demonstrate the benefits and uses of a data base, assist in showing students how to search for information, sort, retrieve and present material. If Australian prehistoric fauna is the topic of study, it will cover that area as well.

However *Kadimakara* will best be used as it was designed, as one source of information amongst many others. Both school teachers and home schoolers will achieve the most from this product if they keep this idea in mind.

Both *Kadimakara* and the *Dinosaur Discovery Kit* demonstrate the importance of examining carefully the objectives of a piece of software rather than purchasing simply on the basis of topics covered. ❑

by Anne Glover

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A Brilliant puzzle type game - so brilliant that it has been banned from the Pactronics' offices due to the amount of time we all spent playing it! LOOPZ can be learnt in minutes but will have you tearing you're hair out in frustration.

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Arcade section with management thrown in! You take the part of a cricket team manager, selecting teams, buying and selling players and copping the flak from the board if they don't perform.

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A Prehistorical Tale - Amiga Only

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Amiga Hints

by Tim Strachan

PDraw > 3D objects > Animation

It is possible to translate art that has been auto-traced by *PDraw 2.0's* Trace facility into *Sculpt* or *Turbo Silver 3D* objects which can then be extruded or animated. The product AUTO-SCRIPT from Computerall will do it for you. For more info - Tel: USA 515 3943778.

Using blank projects for special startup conditions

Usually you'll start up, say, *DPaint* by double-clicking on the program icon - but the drawback is that it always comes up with the same intro screen, and then the same old palette. You can get around this by simply changing the palette to whatever you want (import pics with interesting palettes and modify them, perhaps); and setting up the display resolution (lo-res, or hi-res overscan, etc). Then save this blank pic, and you'll end up with an icon which you can click on in future to bring up *DPaint* instantly in the way you want. You could do a series of these if you get keen and name them appropriately HiRes_OS_browns, etc.

This technique can be used with all sorts of programs, such as *ProPage*, other paint programs, etc.

Hidden menu

There is a special menu available to the A2620 accelerator board from-Commodore. If you reset, and press SHIFT M, and hold down both mouse buttons, you get a 'menu' that enables you to play around with the various bits and pieces on the 68020 boards, look at memory, and simple stuff like that.

What is dithering?

Basically, it's a way of coming up with more colours on screen by mixing two to get a third. In conventional painting, you can get all the colours by simply mixing red, green and blue. Likewise you can mix pixels in a paint program, getting alternate colours which at a small distance look like another colour. You'll often see icons using this technique.

The standard Amiga ram chips

The RAM Chips are Dynamic 256Kb (therefore called DRAM), organised as 256Kb x 1 bit. They come as a 16 pin dual-in-line package (DIP). Access time is 150 nanoseconds. You can look at the top of the chip to get some info on it. See below... (thanks to Mark Gladding for this info)

```
TMS4256-15NL
|    |   |
|    |   |
|    |   |
|    |   |
|    |   + ----150ns (15 = 150
|    |       nanosecond speed)
|    |
|    +--------256Kb
|
```

Seagate hard drive codes

The ST506 series Hard drives from Seagate, as an example, come as ST251-0 or ST251-1. The -0 suffix indicates the drive has an access time of 40ms (Milliseconds) and the -1 suffix means 28ms. If an N appears at the end such as ST251N-1 then the N indicates that the drive is a SCSI unit with an access time of 28ms.

Incidentally, the 87-meg SCSI Seagate drive, in quite common use, has a long self-test procedure on bootup and quite often isn't ready by the time the system is ready for it, at least on the A3000.

Patterns or wildcards

The use of "Pattern-matching" or "wild cards" as it's sometimes called, can make your use of DOS much more rapid and efficient. Many other applications also use similar techniques (spreadsheets, databases, etc) and familiarity with the principles and practice of patterns is important.

There are seven special characters that are used in pattern matching, which are:

' ( ) ? % # |

Placed before a character, ' removes the special effect that character has. This is useful if you want to include one of the pattern characters as a normal character.

()
Establishes an order of operations, and groups patterns together.

?
Matches a single character.

%
Matches the null string

#<pattern>
Matches one or more occurances of <pattern>.

|
Means 'OR'.

So the command > **copy c/#? to ram:c** will copy any and all files in the C directory to the directory ram:c.

> **copy df0:#?/#? to df1: all** will copy every file in all directories on df0: to the disk in the external drive.

> **list pat A(B|%)#C** matches A, AB, ABC, ACCCC etc. ❑

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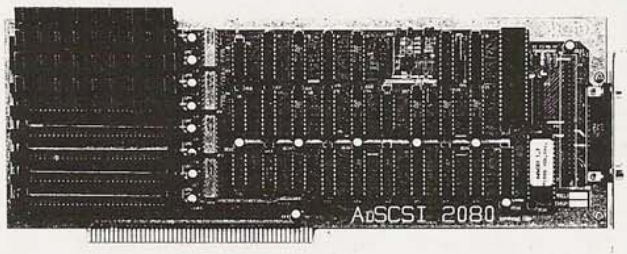
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PART 12 *by Andrew Leniart*

If you're one of the readers that have written in asking for help with Ed - the workbench editor - and wish to know how to use it, then this is the issue you've been waiting for. We are going to put Ed through its paces in a moment or two.

Who's Ed?

Ed is a text editor and is being used to write this very article. It lives on the Workbench disk in the "C" directory and is there ready to help you edit or create those fantastic script files that we've been learning about in past issues. So how do we use Ed? Easy! Ed sounds like a friendly type of soul so open up a CLI and say hello to him. Do it like this:

Ed Hello!

The disk drive spins as Ed hears himself beckoned and pops himself to the front of the screen with the message at the bottom of his window, "Creating New File". Unfortunately, Ed's friendly nature stops about right there. Grab hold of your mouse and try to find a pull down menu to help you figure out what to do next and you will be sadly disappointed. Ed has no pull down menus or online help so you first need to learn how to communicate with him. Prepare yourself for some staunch learning. Put Ed back to sleep for the time being by pressing the Escape key and then Q.

Using Ed

Ok, first thing we need to make clear is that Ed always needs a parameter passed to him every time he is invoked. This parameter that I'm talking about is the name of the script or text file which you want to edit. This can include the full path name.

In our little fun example above, we were creating a new file called "Hello!" and had we typed anything in at that stage and saved it, then the file Hello! would have ended up saved in the directory we were currently in when we first opened up the CLI. On the other hand, if we wanted to create a new file and save it to the disk we had in DF1: we could type "ED DF1:File-Name" and so on. This is what is referred to as specifying a path. When editing an existing file on disk such as our startup-sequence, we need to specify the "path" to where that file is so Ed can find it. Ie:

Ed Df0:S/Startup-Sequence

So much for getting Ed off his butt and doing something, but where it gets a little tricky for people not used to working with Ed is how to move around within the editor and how to issue commands to speed things up a bit.

Commanding Ed

As I mentioned before, Ed has no pull down menus with which to issue commands and instructions. Everything is done via the keyboard with the help of built in commands. There are two types: *Direct Commands* which are given by holding down the Ctrl key on your keyboard while pressing another key, and *Command Mode Commands* which are given by first pressing the "Escape" key on the keyboard and then pressing the appropriate command key. Both types of commands will be covered and explained during the course of this tutorial.

I planned to make this a hands on learning experience so, using a copy of your workbench diskette, fire up Ed by typing in the following in a CLI or Shell:

Ed Using-Ed

At the end of the exercise, this file which we are about to create is going to be a help file for you when using Ed. I will later explain how to set it up so that you can view this file quite easily from Workbench whenever you are using the editor and use it as a reference.

First thing to do is to set up the margins in Ed to suit our purposes.

Press the Escape key once and then hit "SH" and Ed will show you what the current default settings are. This should be similar to the following:

Editing file using Ed

Tab distance	003
Left margin	001
Right margin	077
Block start	Unset
Block end	Unset
Buffer usage	000%

Type any character to continue. What this all means starting from the top is as follows: The first line simply tells you the name of the file that you are currently editing. In our case it's our Using-Ed help file which we are going to create. The second line tells us the distance that the cursor will travel when we hit the Tab key on our keyboard. Left and right margins are just that while Block start and end refer to which lines the blocks that we might mark to cut and/or paste text start and end. Buffer usage refers to how much buffer space is used when we use the mark block commands.

Follow the instruction Ed is giving you and press a key. The window will become blank again and we are back in square one. Now is a good time to type in some notes about the command you just learned in your own personal help file. Now for our purposes, the settings would be fine left as they are but let's set them to something different for the sake of learning how to do it. We'll make the left margin 2 and the right margin 78. This will give us a nice neat display when we view our help file later on. Do it like this:

Esc SL 2
Esc SR 78

That's it. You won't physically see that any changes have taken place until you begin to type in text. Once you do, you will notice that Ed will "word wrap" words for you when your text reaches the 78 mark and will continue the word wrap on the second space of the next line. This eliminates the need to hit return when you reach the end of a line. Type in a few lines to see what I mean.

Now the above two commands were given in Command Mode. This is the most powerful way to issue commands when using Ed and has the most flexibility. Let's take a look

at Direct Command mode now and see what we have available to us.

Be sure to make notes and try things as we go along as this will help you learn and will make for a useful help file later on.

Direct commands

Direct commands are issued by holding down the Ctrl key while you press another. This is true for all but four direct commands which are:

TAB KEY - On its own, the tab key will move your cursor to the next tab setting on that line. Useful when you want to indent a line in a few spaces.

DEL KEY - will delete the character that the cursor is sitting on.

BACKSPACE KEY - will delete or erase the character directly to the left of the cursor.

RETURN - will immediately move the cursor to the next line. If you are in the middle of a line of text, then any to the right of the cursor will be shifted down to the next line as well.

Finally, the ARROW KEYS on your keyboard allow you to move around the screen over previously typed text without disturbing the text contents. All other direct commands are issued with the CTRL key depressed while you press the appropriate key. Here's what they are:

Cursor movement

CTRL-D - Will "scroll" your text down 12 lines.
CTRL-U - Scrolls text 12 lines upwards.
CTRL-E - Will send the cursor to the very top or bottom of the window.
CTRL-I - Does the same thing as the Tab key on its own explained above.
CTRL-M - Achieves the same result as pressing the return key.
CTRL-R - Moves the cursor to the end of the word to the left side.
CTRL-T - Moves the cursor to the start of the next line.
CTRL-] - Moves the cursor to the start or end of the line you are on.

Deleting commands

CTRL-H - Deletes the character to the left side of the cursor.
CTRL-O - Deletes a word or all spaces up until the next word.
CTRL-Y - Deletes everything to the right of the cursor on that line.
CTRL-B - Deletes the whole line you are on.

Inserting and miscellaneous

CTRL-A - Inserts a blank line at the cursor position.
CTRL-[- Puts you into "Command Mode". Same as pressing Escape.
CTRL-F - Toggle UPPER and lower case on the character under the cursor.
The above are the commands available to us when using Direct Command mode. A lot of these commands are also available to us in Command Mode and whether you use Direct mode or command mode to issue commands when using Ed is totally up to you and your own preference as to what's easier.

Continued on p47

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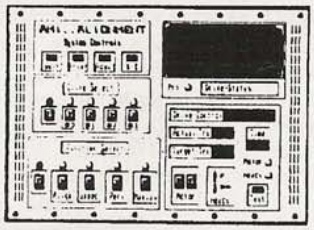
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Command Mode commands

The following commands are issued by first pressing the Escape key and then pressing the appropriate letter for the command you wish to use. If you happen to make a mistake and enter a letter which is undefined, then Ed will simply give you a message at the bottom of the screen to that effect and no harm is done.

Ed will also sometimes ask you to confirm that you want something to happen before he goes ahead and does it - like when you go to exit without saving your work or something along those lines.

Cursor movement

ESC-M? - Moves the cursor to the number (?) line you specify.
ESC-CL - Moves the cursor one character to the left.
ESC-CR - Moves the cursor one character to the right.
ESC-CS - Moves the cursor to the Start of the line you are on.
ESC-CE - Moves the cursor to the End of the line you are on.
ESC-P - Moves the cursor to the Start of the previous line.
ESC-N - Moves the cursor to the Start of the next line.
ESC-T - Moves the cursor to the Start of your document or file.
ESC-B - Moves the cursor to the End of your document of file.

Block commands

ESC-BS - Marks the cursor position as the Start of a block.
ESC-BE - Marks the cursor position as the End of a block.
ESC-SB - Shows a marked block of text on screen.
ESC-IB - Inserts a marked block of text at the cursor position.
ESC-DB - Deletes a marked block of text.
ESC-WB<Data> - Saves a marked block of text as a data file. Path names allowed. Ie: ESC-WB "Ram:Test"

Inserting and deleting

ESC-DC - Deletes the character under the cursor.
ESC-D - Deletes the entire line you are on.
ESC-I<Text> - Inserts text before the current line you are on.
ESC-A<Text> - Inserts text after the current line you are on.
ESC-IF<Data> - Inserts a specified data file at the cursor position.
ESC-J - Combines, or joins the current line with the next line.
ESC-S - Splits a line at the cursor position.

Search and replace functions

ESC-BF<Text> - Searches for text (or string) specified backwards up to the cursor position.
ESC-F<Text> - Searches for text specified in a forwards direction.
ESC-E<Text1><Text2> - Searches for specified Text1 and replaces it with specified Text2.
ESC-EQ<Text1><Text2> - Searches

for specified Text1 and replaces it with specified Text2 but prompts you to make sure you want to replace that occurrence.
EXC-LC - Makes for a more stringent search function, this tells Ed to find only that text that is identical with upper and lower case.
ESC-UC - The opposite of LC. Tells Ed to ignore upper and lower case when searching for the text specified.

Miscellaneous commands

ESC-RP - Repeat the last command given until an error occurs.
ESC-U - Undo any changes made on the line you are on.
ESC-; - Allows command stacking. Separates commands on same command line.

Tabs and margin settings

ESC-SL<n> - Set left margin to number setting where <n> = number.
ESC-SR<n> - Set right margin to number setting where <n> = number.
ESC-ST<n> - Set number of columns or spaces between Tab stops.
ESC-EX - Ignore the right margin setting on this line only.
ESC-SH - Shows current settings of Margins and Tabs etc.

Saving your work and exiting

ESC-X - Exit Ed and save file to filename specified when Ed was invoked.
ESC-SA - Save File to filename specified when invoked and continue working on the file after you save.
ESC-SA<name> - Save file to filename specified in <name> and continue working on the file after the save. Useful to save under the same file to a different name when working with large files.
ESC-Q - Quit file and don't save any changes made to the file you are working on. Ed will ask you to confirm you wish to do this if changes had been made to the file during that session.

Using the commands

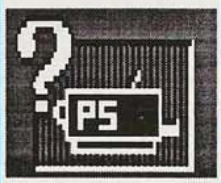
As you can see, there are many keyboard combinations which you need to learn to begin to use Ed effectively. It is for this very reason that a lot of people don't bother with it and go for a more sociable text file editor that has pull down menu features and online help. Depends on one's taste I suppose. You might find you like it and enjoy the keyboard combinations and, if that's the case, stick with it and learn how to use it properly. I personally don't use it a hell of a lot as I prefer a shareware effort by the name of *Qed*, but only 'my' preference. With the right person at the helm, Ed is quite a powerful little beast that everyone has in the C directory of their Workbench.

The best way to learn to use Ed is like anything else to do with computers. A little bit of guidance and plenty of trial and error experimentation. Sit yourself down and physically try out the commands. Mark a block of text and paste (or insert) it in another spot. Delete lines, do search and replaces. Feel your way around and en-

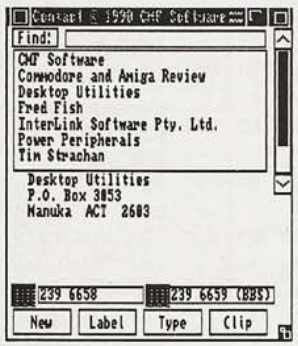
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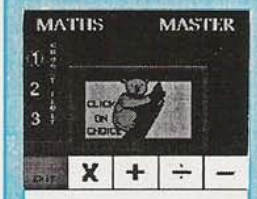
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JUST BECAUSE YOU DON'T SEE IT - DOESN'T MEAN WE DON'T HAVE IT !!

ter any little quirks you discover in your personal help file which we talked about at the start of this article. Once you have created it to your own satisfaction, go the next step and create an icon for it to make it readily available to refer to at any time.

Using *More* - the Workbench text file viewer

More is a text file viewing utility which lives in the Utilities drawer on your 1.3 Workbench diskette. Usage is simplicity itself. Double click the icon and it will prompt you for a file name. Enter your filename along with the path to the file and it will display it for you. Simple as that.

However, if you have a text file which you might wish to view frequently - like your Using-Ed help file, then it becomes easier to attach an icon to this file and just double click it whenever you want *More* to display it. Here's how it's done, assuming your Using-Ed help file has been saved to the root directory of your Workbench diskette:

First off you need to pinch a project icon from somewhere. Any icon created by Notepad will do the job. So just enter a CLI and copy the filename.info file that was created by Notepad over to ram. Once you have it there, rename it to reflect your Using-Ed help file. ie: Using-Ed.info.

Once that's done, you just copy or move it into the root directory of your Workbench disk. Open up your Workbench disk and you will see the icon there. Now, double clicking it from this point will load up your help file into Notepad which is not what we want to do, so we now need to change the icon's default values to point to *More* rather than NotePad. I've covered this procedure once before, but will quickly run over it again here to save you digging through previous issues.

Click on the Using-Ed icon once and select the "Info" item from the Workbench. This will bring up a screen which details the icon's default values. The place we need to make our changes is in the DEFAULT TOOL window. Click once in the little window and press Right Amiga-X to get-rid of the information it contains. Now type the following in the Default Tool Box:

DF0:Utilities/More

Save this by clicking on the save gadget at the bottom left hand side of the screen and you're ready to go. From now on, each time you double click this icon, More will display your help file for you.

Using More via CLI

You can also invoke *More* from the CLI as well as workbench simply by specifying the filename you wish to view. Ie: In a CLI, type:

MORE DF0:Using-Ed

and *More* will fire up once again and display your text file. A handy and better way to view text files than TYPEing them in a CLI as it pauses automatically at every page.

Letters

Ok, now onto a couple of your letters. The first this month comes from Lisa Ainsworth of Tenterfield in NSW who writes:

Dear Andrew, I have been reading all your CLI tutorials and have found them very helpful. I read your section on making aliases and liked the idea so I tried to create some of my own. I have the Workbench 1.3 Shell, so the alias command should work. Yet when I open shell the first thing that appears is "Unknown command alias" then the prompt 1>. Why doesn't thiscommand work and how can I fix it?

Also, the command's format and diskcopy don't work in my CLI. I receive the message "Unknown command Format/Diskcopy". The copy command works but not the Diskcopy. Why is this?

Keep up the good tutorials and thanks for your help. I have just begun to go back through the tutorials and discovered another side to computing I didn't think I'd enjoy. I have ordered a book on the CLI to continue with. Thanks again!

REPLY - Hi Lisa, the reason why Alias and Diskcopy don't work is almost certain to be in your startup-sequence. It sounds to me that your startup-sequence may have been modified in some way which could mean that some vital lines have been left out. There are path settings which need to be made when booting up to be sure all examples given work and if they are left out then you're sure to run into problems. Try booting up with a copy of your original Workbench diskette you got when you bought the 1.3 upgrade and try again. If you still have no success, send a copy of the disk to me and I'll take a look at it for you.

Our next letter comes from Cremorne where Keith A. Cartwright writes:

Dear Andrew, Thank you for your very instructive tutorials in A.C.A.R. Could you include more of the "Ed and "EDIT" programs in future articles? I use Prowrite 3.0 *and became sick of always going to* ProWrite *prefs to get the RAM disk. Through CLI, I accessed the S directory in the System disk and by using "ED df1:s/startup-sequence" I added Dir ram: and much to my surprise when I next loaded* Prowrite, *lo and behold up came the Ram icon making it easier to load the Main and User Dictionaries into the ram disk.*

I am sure there are many more uses for these commands and would appreciate it if you could investigate this and give some tips on its use. I have made an index for your articles and enclose a copy for your use. Also, could you possibly persuade ACAR to publish your valuable tutorials as a separate reference booklet.

REPLY - Well Keith, you should be happy with this issue's contents as I have virtually devoted it to using Ed as yours was not the first request for an article of this sort. Look forward to more of the same in coming months where I will be going into Ed with more examples as people write in with individual problems.

As for Edit, I have been debating whether to do a piece on it - if more requests come in I'll do an article in a future issue.

Thank you for the reference index that you sent on my articles. Very useful indeed. I would like to publish it in a future edition for the benefit of all to use so please get back to me saying whether or not this would be ok with you.

Concluding

Well, that brings us to the end of yet another journey into the Amiga's other form of interface. Look forward to more of the same in future issues and please keep those letters coming in. The place to send them is:

PO Box 1335

Hoppers Crossing Vic 3030

Till then, experiment with what you've learned to date and keep trying new things. Life is too short, be daring! See you next time...

You can contact Andy Leniart on Andy's Attic BBS (03)-749-4897. ❑

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The C64 Column

by Owen James

This issue marks the C64 Column's first birthday! A big thank you to everyone that's contributed with their tips, ideas and hellos over the past twelve months.

There's still a lot to come, such as adding more commands to BASIC, artificial intelligence, getting more from the C64, and a whole heap more. Check out this months tip's section for news of a competition.

RAMLink and RAMDrive

Creative Micro Designs, the company that makes those great C64 hard drives, have created what looks to be the answer to everybody's prayers. RAMLink and RAMDrive should be available by the time you read this.

RAMLink is advertised as a "Power-backed REU interface and expandable RAM disk" and RAMDrive, "a high performance battery backed RAM disk cartridge".

RAMLink fully supports the Commodore 1700, 1764, 1750, and even *GeoRAM*. It has a maximum capacity of 16 megs and a pass-thru connector for cartridges. It can be used with or without existing REUs (so you can finally use *GeoRAM* with other programs).

RAMDrive has a maximum of two megabytes and is GEOS compatible. It has its own separate power supply and battery back-up in case of failures or for transportation to another C64.

Both units come with RL-DOS, which can emulate a 1541/1571/1581 and even includes a JiffyDOS Kernal for JiffyDOS equipped drives. Sounds great! H.P.D. is taking care of distribution out here in Australia. For more information contact them on (08) 349 8486

Your operating system

One of the great features of the Amiga is the ability to upgrade its operating system. The latest version, 2.0 (if it ever makes it past testing stages!), promises a whole new look for Workbench. With the 64, unfortunately, we're seemingly stuck with the boring blue BASIC interpreter. Wouldn't it be nice to make the default device the disk drive, or to get rid of the annoying question mark when using INPUT, or even to create your own personalised BASIC?

"He's day-dreaming again," you might be saying. "You can't change ROM". Of course you can't, but what's wrong with forcing the C64 to ignore ROM altogether and instead to use RAM?

To explain things a little better, type POKE 1, PEEK(1) AND 253. Notice that the 64 has become brain dead? Everything still works but the 64 is about as useful as Einstein without a brain. What we've done is told the 64 to forget about ROM. We've shut down the code that tells it how to operate. Don't panic - just hit RUN/STOP and RESTORE to put things right.

How can we make use of this ability to switch out ROM? Firstly we'll need to copy ROM into RAM. This is no big secret. It works on the same principle you may have used to define your own character set. Type this - it'll take a while to complete:

```
10 FOR J=40960 TO 49151
20 POKE J, PEEK(J) : NEXT J
30 FOR J=57344 TO 65535
40 POKE J, PEEK(J) : NEXT J
50 POKE 1, PEEK(1) AND 253
```

It may appear that this program is doing nothing more than poking values that were already in memory. Not quite so. If you look closely you'll see that we're trying to poke into ROM.

When we POKE into ROM, our values are actually stored in 'hidden' or 'shadow' RAM. This RAM isn't accessed until we change the C64's memory maps. By utilising this shadow RAM we can actually get 88K out of our humble C64. More on this topic in a future column.

Lines 10 through to 40 copies BASIC ROM and KERNAL ROM into shadow RAM locations. Line 50 changes the C64's memory map so that ROM is switched out and the extra RAM (with the ROM code copied into it) is switched in. Now that the 64's intelligence is in RAM we can go about changing it. Just a word of warning before we begin: Take care with what gets POKEd where because you may find that the 64 may lock up. Don't be worried about experimenting, though, because at worst you'll have to switch off.

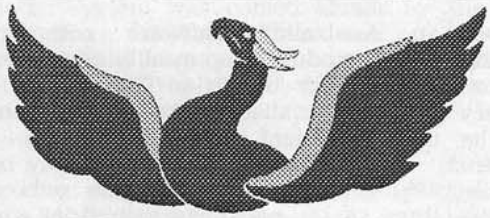
Since most of us are disk-based users we might like to have the drive as the default storage device. POKE 57818,8 and you can forget having to type a ',8' on the end of file names.
And getting rid of a nuisance question mark? It's as simple as typing POKE 43846,32. Now when you use INPUT as part of your BASIC programs you'll see a space instead of the question mark. Some other question mark replacements you might like to try are a colon (change the 32 to 58), a full-stop (39), or even a less-than sign (62). Any character could be used instead.

Colour changes for user responses are also possible. Just look up their ASCII codes in the back of the C64 manual. The GET command normally requires more than one step to make it productive. Usually we have to type GET A$: IF A$="" THEN ... etc, etc. Not any more! Just type POKE 61765,252 and GET will halt until a key is pressed. If you ask me, that's the way it should've been to begin with!

Those of you with the will to experiment might like to try making their favourite ML utilities an integral part of the operating system. Add a DOS wedge, a SEARCH function for BASIC, or why not go all the way and put a complete machine code programming environment in place of BASIC? Tape users might even like to patch 'Turbo Tape' or some other type of compression system into the operating code.

You could even modify BASIC to make it more productive. For a de-

Continued on p54



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tailed guide on how to add new commands and modify existing ones, catch my article later in the year. It isn't as hard as you might think.

Mail bag

In the mail this month is a letter from John Buckingham. He begins with a complaint about the C64 coverage in ACAR:

"I have just written a letter to the editor complaining about the coverage of the C64 in the March copy of ACAR. Of 80 pages only about ten pages - including mixed advertising, entertainment and editorial content - was for the C64, even though it's the largest selling personal computer over the last decade worldwide. And it is still in production! There must certainly be more C64 users than Amiga users out there but in a magazine such as ACAR we only warrant 10 out of 80 pages.

"I'm sure that by giving us C64 owners and users more space more of us will be encouraged to contribute."

I doubt very much that the editorial offices of any magazine are being swamped with C64 articles at the moment. Magazines such as ACAR can't just pull articles out of thin air for publishing. At the moment the Amiga is alive with activity. New hardware and software for it is being released on what seems like a daily basis. Naturally most magazines concentrate on where the action is.

Still, I'd love to see more C64 articles printed. So, put your word-processor where your complaints are and do something about it. Slap a few 1200 word articles together and send them to the editor. Chances are that they'll get published. How about some programming articles? If you've written a program then send it in. We at ACAR would love to balance up our C64 - Amiga coverage, but we need you, the public, to help.

John goes on to write about a Commodore games console: *"Since the middle of last year the English magazines have been telling us about the new Commodore Games Console but as yet we have not even had a mention of it in the ACAR. Surely such a machine must help in any resurgence of the C64. The major software companies are supporting the games console which is basically a keyboardless C64. The cartridges produced for it are entirely compatible with the C64. Yet there has been no mention of it in the ACAR."*

To be honest, this is the first I've heard of the console. I normally use American magazines and user group newsletters for new product information and at the time of writing they haven't mentioned anything of the sort. Harry Copperman, the big Guru at Commodore, did mention something along the lines of enhancing the C64 this year. Is this the enhancement we've all been waiting for?

If the console is true then I say "About time"! A console version of the C64 is an obvious move to make the 64 more competitive with Sega and Nintendo, but I think that even now is a bit late for such a move. Sega has already gone several steps further by creating a new 16-bit CD-ROM console with full stereo sound, an extremely impressive offering of colours and dozens of top quality titles. Still, if a C64 console was expandable to allow the future addition of a keyboard and disk drive, it may prove more popular to the credit card-holding parents who might decide that expandability is an important factor in a games machine. I'll see what news I can dig up and keep you posted on the 'phantom console'.

Again dipping into the mailbag, Mrs. Elly Byrne of Wentworth Falls writes:

"Do any of your readers know of anyone who has bought and used successfully the program Word Writer 5? I have managed to ruin the initial disk (I didn't make a backup copy first off).

"If there are so many C64 readers, why is this magazine so heavily Amiga based? I would really like to know if there are still people out there using Vic 20s. I have managed to write a program to control the datasette on the Vic 20. Is anyone interested?"

Vic 20s still seem to be in vogue, but not normally as a full dedicated computer. I often hear of people using them as a RAM disk for C64, or even having it wired to the 64 to multitask in long calculating operations. One of the more common uses is actually as spare parts for the the C64 because they are so similar. Anybody using the old Vics for anything else?

Tips and tricks

Danny Collins sent in a number of suggestions that were published in the March issue. I'm happy to say that many of them proved popular with readers and in fact his idea of a competition has gained response from Dave Seiler, a programmer for Millersoft Education Software. Millersoft is an Australian software company which produces top quality education software for the C64. The catalogue and sampler disk he sent me was genuinely excellent.

"Why the free plug?", you may be asking. Well, Millersoft has offered three of its packages valued at approximately $90.00 to be used as prizes for a competition such as the one that Danny suggested.

To enter, simply send in your original short and USEFUL programs for the 64. Some examples might be a short routine for the handling of user input within a program, or a utility to print stickers for cassettes or disks, or an automatic number selector for Lotto.

Here's the guidelines:

1. Programs must be short. About four or five disk blocks long is the limit. Exceptions will be made if the program is an especially good six block long program.

2. It must serve some useful purpose. Psychedelic colours flashing on screen to the tune of "Purple Haze" might be accepted if an explanation of "It's good for the soul" is included... but don't hold your breath!

3. Programs can be submitted on disk, tape, or printed listing, though disks are preferred.

4. Entries must be received by August 31st 1991.

Besides the three Millersoft packages, I'll make available several compilation disks of all the best C64 PD titles including disk packers, demos, music programs, and heaps more. Get your programs in!

Dave Seiler also sent me a programming tip. This small routine has many useful applications, such as selecting specific screen positions, overprinting previous text and, as seen in the routine, it is great for creating print loops or erasing portions of your screen.

The POKES actually plot the cursor to the row and column you designate. The value 214 is the area poked for the row and 211 for the column:

```
5 POKE 53280,0 : POKE 53281,0 :
PRINT"[ctrl7][clr]"
10 UP=23 : WD$="GOING UP!"
20 UP=UP-1 : IF UP=4 THEN C=C+1 :
GOTO 50
30 POKE 214, UP : PRINT : POKE 211,
15 : PRINT WD$
40 GOTO 20
50 IF C>1 THEN 70
60 WD$="[9 spaces]" : UP=23 : GOTO
20
70 END
```

Dave also points out that there

was an error in the un-new routine that was published a few months back. The required modification is in the first line, which should have been:

POKE 2050,8:SYS42291

then the routine as printed.

Sorry about the error! I should also say that the un-new routine is good for getting back BASIC programs after the C64 locks up. If this happens, reset the machine (a paperclip will do) and type the un-new routine. You should find your BASIC program is back in one piece.

Another unNEW routine recently came in. With this one, simply type:

POKE 2050,8:SYS 42291

Hmmm, sounds like the above correction could do the trick by itself.

Feeling mischievous? Here's just the trick to run on a friend's computer:

```
10 POKE 56334,0 : POKE 1, 51
20 FOR I=0 TO 2048
30 J=I-(I AND 7)*2 : POKE 12295+J, PEEK (53248+I)
40 NEXT I
50 POKE 1,55 : POKE 56334, 1 : POKE 53272, 29
```

It'll take a while to run. After it's complete you'll find all the C64's characters print upside down. Not very useful, but I thought it was cute! As you can see, small routines are becoming part of Tips and tricks so send in some of your own to be included.

Tips, tricks, questions and suggestions can be sent to me care of: ACAR, PO Box 288, Gladesville NSW 2111 ❑

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USING Basic Sprite movement by joystick

by Nick Van Heeswyk

Let's take a quick look at how to control a sprite on the screen with the keyboard and the joystick. People that are familiar with controlling sprites would most likely know to move sprites with the keyboard. But using the joystick is quite different.

First of all we'll look at using the keyboard. Type in the following program and save it to tape or disk:

```
NEW
5 REM BY NICK VAN HEESWYK
10 POKE 53280,11:POKE
53281,0:PRINT CHR$(147)
15 V=53248:POKE V+21,1
20 POKE 2040,13:POKE V+39,1
25 FOR N = 0 TO 62:POKE
832+N,255:NEXT
30 X=100:Y=100
40 POKE V+0,X:POKE V+1,Y
45 GET A$:IF A$=""THEN 45
50 IF A$="W"THEN Y=Y-1
55 IF A$="E"THEN Y=Y-1:X=X+1
60 IF A$="D"THEN X=X+1
65 IF A$="C"THEN X=X+1:Y=Y+1
70 IF A$="X"THEN Y=Y+1
75 IF A$="Z"THEN Y=Y+1:X=X-1
80 IF A$="A"THEN X=X-1
85 IF A$="Q"THEN X=X-1:Y=Y-1
90 IF A$="S"THEN END
95 REM BOUNDARY TEST
100 IF X=255 THEN X=10
105 IF X=9 THEN X=254
110 IF Y=250 THEN Y=10
115 IF Y=9 THEN Y=249
120 A$="":GOTO 40
```

After running this program, it should clear the screen and foreground and background should change colours. Then a white block sprite will appear on the screen. Now you can control the sprite with the following keys :-

```
   Q   W   E
   *   *   *
A  *   S   *   D
   *   *   *
   Z   X   C
```

Now for a line explanation.

Line 10 - Clear screen and change screen colours.
15 - V = 53248, turn on sprite one.
20 - Store sprite at 2040. Give sprite white colour.
25 - Create solid block.
30 - Starting X and Y coordinates.
40 - Place sprite on screen.
45 - Wait for key press.
50 - 90 - Which key pressed and move sprite accordingly.
95 -115 - Boundary test.
120 - Reset A$ - return to line 40.

You can easily change the keys to what ever one you want by changing the letter. The key press lines work from W right back around to the letter Q in that order. At the end is 'S' for fire, but here it just ends the program.

Now for the section most of you are wanting to hear about. Controlling the joystick isn't much harder if you know what to enter into the computer. Now type in the following program and save it to tape or disk.

```
NEW
5 REM BY NICK VAN HEESWYK
10 POKE 53280,11:POKE
53281,0:PRINT CHR$(147)
15 V=53248:POKE V+21,1
20 POKE 2040,13:POKE V+39,1
25 FOR N=0TO62:POKE
832+N,255:NEXT
30 X=100:Y=100
40 POKE V+0,X:POKE V+1,Y
45 J=56320
50 IF (PEEK(J)AND16)=0 THEN END
55 M=15-(PEEK(J)AND15)
60 IF M=1 THEN Y=Y-1
65 IF M=2 THEN Y=Y+1
70 IF M=4 THEN X=X-1
75 IF M=5 THEN X=X-1:Y=Y-1
80 IF M=6 THEN X=X-1:Y=Y+1
85 IF M=8 THEN X=X+1
90 IF M=9 THEN X=X+1:Y=Y-1
95 IF M=10 THEN X=X+1:Y=Y+1
100 REM BOUNDARY TEST
105 IF X=9 THEN X=254
110 IF X=255 THEN X=10
115 IF Y=9 THEN Y=254
120 IF Y=255 THEN Y=10
125 POKE V+0,X:POKE V+1,Y
130 GOTO 50
```

After running the program, the same thing will happen as in the first. But instead of using keys to control the sprite, you can now control the sprite with the joystick in port 2. If you want to use port 1, simply change the 56320 to 56321 in line 45.

I think that's one of the good points about joystick controlling, you only need to change one number. Anyway it's time for a line to line explanation:
Line 5-40 - The same as in the first example.
45 - Load J with 56320 (port 2 location)
50 - This line simply figures if the fire button has been pressed down.
55 - 'M' equals the direction been pressed.
60-95 - Which direction pushed ? Move sprite accordingly.
100-120 - Boundary test.
125 - Place sprite on the screen.
130 - Return to line 50.

If you don't have the table of directions, naturally you would not know what's going on with the sprite movement. Unless you got smart and figured out which way the sprite was going to move. Anyway the table is as follows.

M Direction
0 None
1 Up
2 Down
3 - 4 Left
5 Up and left
6 Down and left
7 - 8 Right
9 Up and Right
10 Down and right

IF (PEEK(56320)AND16)=0 / Fire button

As you can see, once you know how to control sprites with the joystick it really is quite simple. Just in case some of you don't know what's going on with X's and Y's in the programs, I will explain it for you.

Instead of wasting room here, take a piece of A4 paper and a pencil. Then draw a large rectangle on it, this will represent the whole screen. Then draw another rectangle inside of that one a few centimeters smaller. In the top left hand corner, label it

Continued on p58

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0,0 (outer rectangle). Then on the bottom left hand corner label it 0,255. Then move to the top right hand corner and label that one 511,0 and the bottom right hand corner 511,255.

Now we need to label the inner rectangle. Top left hand corner equals 24,30 and bottom left hand corner equals 24,250. On the other side the top corner equals 343,30 and the bottom equals 343,250. That makes the inner rectangle the viewing area for the sprite, and the border is the other where the sprite cannot be seen.

Let's say the sprite was at location 100, 150 in our program X would equal 100 and Y=150. If the joystick was pushed up, this means the sprite needs to be moved up too. Seeing 0,0 is at the top right hand corner, Y needs to become one less to move up, hence the Y=Y-1. So you should know that Y controls up and down and X controls left and right. Say if diagonally right down was pushed, one more would need to be added onto Y because in that direction the sprite needs to be moved down. But also it needs to be moved one across so X gets one more added in too. So that's how you get X=X+1:Y=Y+1.

You should be able to easily figure out what's going on even if you could not make heads or tails of it. All you really need is to look at it logically. You may not have really needed to draw up the screen viewing area, but you would need a copy if you're into moving sprites.

With keyboard control, instead of having to push the keys rapidly after each other, simply add the following POKE to make them auto repeat.

2 POKE 650,128.

(By the way, the above program can be made to run much faster, and require far fewer program lines, by using BOOLEAN statements. For a FREE copy of Suite 64 of your choice, send your solution in to:

ACAR
P.O. Box 288
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First correct entry will receive the disk you nominate with your entry.)

Well that's all for now, bye till next time. ❑

The Geos Column

by Owen James

In the GeoNews this month is some products to work with GEOS.

GeoBasic, from GeoWorks, was released a while back. This is the official *GeoBasic* and is allegedly better than *Becker Basic*. *GeoBasic* provides programmers with over one hundred new commands including WHILE... LOOP, REPEAT... UNTIL, CALL for ML routines, and permits line labels and longer variable names.

On the surface this all sounds great, but there seems to be one major catch - *GeoBasic* can only be purchased through RUN magazine of the U.S. Why has GeoWorks decided on such limited distribution? Anyone's guess.

My question is "What about users out here in Australia"? It's nothing less than an unnecessary hassle trying to exchange currencies, and have a long wait while it ships out here. And then what about after sales support? Hopefully some kind of more direct link can be made in the future to allow this product to get the type of distribution it deserves.

GeoWizard looks to be the GEOS utility that everybody's been waiting for. Isn't it a pain to have to go through the process of shutting down *GeoWrite* every time you want to create a graphic for your document? This is where *GeoWizard* comes in. You can actually boot an application from within another instead of having to go through the deskTop. Unfortunately, to my knowledge, it's another 'U.S. only' product. Comm-Plex Software can be contacted at: 6782 Junction Rd, Pacilion, NY 14525-9755.

Laser output

You may remember me mentioning laser printing with GEOS a while back. The problem with this was that only Apple LaserWriter was usable.

The good news is that the GeoLaser/PubLaser Patch will convert GEOS LaserWriter files into raw PostScript files. There certainly isn't a shortage of PostScript printers! I'm told that with this utility you can also print to a Linotronic printer for a 1200 dpi (dots per inch) printout. Incredible! The GeoLaser/PubLaser Patch was available on the American Q-Link last year. Any Australian BBS users got it?

GEOS animation

Album Animator might be what you're after. Simply put, it flips photo album pages to create smooth animation. It's been available for about a year, so check your local PD supplier to see if it's around.

MacAttack II, I'm told, is great for transferring Macintosh pictures to *GeoPaint* format, or vice versa. Regular correspondent Marc Walters was in touch with me just before the deadline and tells me that he recently received some GEOS applications that are capable of converting *Macpaint* and GIF format pictures to *GeoPaint*. I'll see what information I can squeeze out of him for next issue!

So where do you get all this software? User Group disk libraries are the first place to try. Public Domain suppliers are also worth a go. There are many who deal with C64. Allan Crouch (telephone 649 4904) might be worth a go, as might Brunswick Publications. Look throughout The ACAR for advertisements.

Do you have an interesting GEOS Public Domain or Shareware program? How about a GEOS application or utility that you've written yourself? Send it to me care of the ACAR, PO Box 288, Gladesville, 2111.

GEO-Errors

No system is foolproof. The Amiga's Guru meditates, the C64 freezes irreversibly without warning, and GEOS, well... GEOS gives a whole new set of things that can go wrong. Most GEOS errors aren't fatal, and normally come as a result of a user

trying to do the impossible. This issue I thought we'd look at some of these errors and how to avoid them.

The first and most important thing to remember is MAKE BACKUPS. I can't emphasize this enough. Get into the habit of creating two copies of everything. The GEOS boot disk is, annoyingly but necessarily, protected. This doesn't mean you can't take insurance against disk problems. Back it up anyway. Use a copier that will get you as close to a perfect duplicate as possible. You may not be able to boot from it but say, for instance, that something goes wrong with one or two of the important files, you have a copy of them that could easily be moved back to the boot disk.

Most GEOS error messages are self-explanatory, such as 'NOT ENOUGH SPACE ON DISK', so I won't go into great depths to explain these. There are some,though, that require further explanation:

Bad or missing disk: usually means that you've removed a disk from the drive and GEOS is trying to access it. Another common culprit is the drive door still in the open position. Also check that the disk is formatted and is able to spin within its cover.

Device not found: Check that the drive is turned on, is interfaced with the C64 correctly, and is not in an error state itself. The most common cause is that the drive has been switched off. If there doesn't appear to be anything wrong and you still get this error then check all interface cables. Test the unit with other cables if necessary.

Disk ID mismatch: The disk in the drive isn't the one GEOS expected to find. Always let GEOS know about disk changes. Unfortunately GEOS doesn't automatically sense the presence of new disks, so every time a change is made we need to let it know by clicking on the disk icon.

Error reading disk: From time to time you may come across an error such as this. Unfortunately GEOS disks aren't always easily fixed using the normal methods because of the file format employed by the system. The first thing to do is to retry the action you wanted to perform. I wouldn't recommend retrying any more than about three times as it may affect drive head alignment depending on the type of error.

If it still doesn't work, give the VALIDATE option from GEOS a go. Remember to never use the ordinary DOS validate command as this will do more harm than good.

Printer is inaccessible: Check that it's turned on, interfaced correctly, and has enough paper and ribbon. Also check for some kind of internal printer error warning, like a flashing light.

This is not a geos format disk: This is more of an option than an error. When you place a disk that has previously been unused under the GEOS environment you are given the option to have it converted to a format that GEOS can more easily work with. If you elect to, GEOS will expand the disk's directory by one block. This block will hold information on the position of file icons on the notepad or on the border.

This disk is not active: Usually this pops up when trying to perform an action on a file in the border when the relevant disk is not available. For instance you may have moved some files from a word processing disk into the border, changed to your *GeoPaint* disk, and tried to dump a border file from the original word processing disk into the waste basket. The solution is to insert the relevant disk and try again.

Apart from these errors, which are easily remedied, there are the more damaging system crashes. You'll be told of these by a window popping up defining the error type and an address in hex of where it happened. The only thing you can do in these errors is to switch off.

There could be a way to recover un-saved text if you were clever enough to have a reset cartridge plugged in. Here's how to do it:

Press reset when you're told of the error. From BASIC, enter a machine code monitor and use the INTERROGATE command to look at memory around $4300. You should find your text. If not then use the HUNT command and use a text string containing a word or two of your text.

When you find the boundaries of the text, save this to disk as a sequential file. Your command may look like this:

S"RECOVERED,S,W"08,4300,630 0 To get the text back into *GeoWrite* format may require you to use the Text Grabber utility and import it as a generic file. This method may sound messy, but when you have pages of unsaved text the effort will be well worth it.

GeoTips

If you find your GEOS work disks seem to be fuller than they should be, select VALIDATE. Often the disk clean up will result in a heck of a lot more room being made available. Try it!

Selecting FULL JUSTIFICATION from *GeoWrite* can sometimes lead to two or three words on a line with five centimetres of space in between each of them. To make the very noticeable spaces a little less dominant, try adding spaces manually. Add a space or two on the line above to force words to wrap onto the next line. This will even out the spaces a little better.

And don't forget about adding spaces in between the individual letters of words. Remember that GEOS uses proportional fonts, so a space in between an A and a V will be a lot less noticable than if you were using your printer's in-built font. Enough spaces in between letters will also force words to wrap around to give a much more balanced looking document.

That's this month's edition of The GEOS Column. Remember to send any GEOS tips you might have to me care of:

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See you next month. ❑

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Amiga-Live Issue Six

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Entertainment

BoingDemo: Despite the name, this is not a demo as such - it's one of those try before you buy versions of a commercial game, only this one is very playable. The Boing part is a salute to the original Amiga Boing Demo! In this level and ladders game, you travel about on poles, ladders, teleport points and at all costs avoid the Boncing Amiga Ball!

RollOn: The play is a little like Boulderdash or Emerald Mine. Eight levels are included. To win you need to plan ahead and organise your moves carefully - sort of a joystick strategy. Includes a level editor to design your own games.

SlotCars: A complete working game of SlotCars...just one of four games in the commercial package known as: 4 IN ONE - EASY BUT FUN! The game concepts are simple but addictive. A combination of strategy and dexterity is needed to beat this one.

MoonBase: Adventure/Arcade - guide the shuttle ship to and from the mother ship with the valuable cargo. A multi-level lunar lander.

Strategy

Turn: A strategy game - the aim of which is to produce a given pattern of stones on the board. In order to complicate the game a little bit, all stones around the selected stone will turn either from black to white or from white to black. There are 18 levels available. There's also a pattern editor to design your own games.

China Challenge: Similar to the well known game Shanghai or Mahjong, the target of China Challenge is, to remove all parts of the pile, the so called Dragon, step by step. This dragon is composed out of 120 different pieces. A challenging past time, fun for two players too!

MarbleSlide: You've got to be quick to get this one. This is the fullest extent to which we've ever seen the old magic square theme taken - and one of the best. Slide the sliders to guide the marble home. But your time is VERY limited!

AmiGo: Strategy Board game for one, two or no players!

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SimGen: How would you like Saturn on your Workbench? SimGen makes your screen look like it is Genlocked. A number of example imagaes are included. Much better than DropCloth or any other of these Workbench background programs. Doesn't slow your Amiga down either!

Flip:This screen gag will drive you nuts. Try it out!

Rocket: Yet another in the great line of Workbench gags. This little number releases a guided rocket which heads straight for your mouse pointer. If you don't move in time, on impact the whole lot explodes. Stick it on a friends Workbench for fun!

Business

'Liner: Our serious program for the month. If you develop outlines for speech, writing, essays or reports, this program will help you organise and edit your material in point form - the best way to develop an outline. A fast solid program.

WO: A short and quick utility, which helps you to bring order in your addresses and codes them and saves them (password-encoded) on disk.

Graphics

MandAnim: If you enjoy madlebrots, you'll love MandAnim. Using a simple tweening process, you can select multiple key areas of a mandlebrot. MandAnim will generate as many steps as you specifiy between each frame creating an expanded animation file which you can load and animate in Deluxe Paint III. Some impressive graphics can be achieved.

Hennon: You can create some fabulous looking images using this program which lets you explore Hennon mapping. The program produces patterns like the one below using the formula x = x * cos (a) - (y - x * x) * sin (a) and y = x * sin (a) + (y - x * x) * cos (a). Several exmaple images are included. Full 640 x 400 hires is supported.

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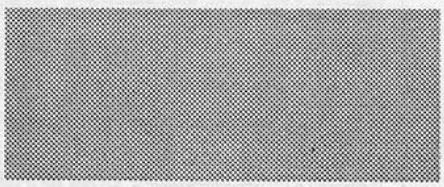
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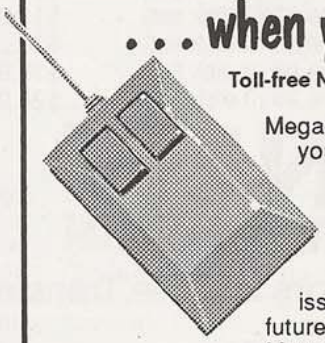
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Local programming TALENT

by Tim Strachan

The focus of attention in Amiga software and hardware is often on overseas people, due partly to the fact that Fred Fish originally set up the Amiga PD Library very early, in the US. However there has been a lot of local talent in all areas and much of it comes through my hands as editor of Megadisc, and as a collector of PD/Shareware disks for the Megadisc library.

What follows is a rundown of some of the local talent, to give newer Amiga users some idea of the depth of Australian savoir-faire and to remind veterans of who's out there. If you have any other information, or are producing things yourself, let me know on (02) 959 3692 or care of this magazine, as I'd like to increase and systematise the collection of local talent.

Nic Wilson - well known for his *NoVirus* program, along with many other very useful commercial and freeware programs such as *NoErrors*, *Addmenu*, *SysInfo*, and many more.

Warren Webber - many public domain programs, including *WBfromCLI*, an innovative program.

Jon Potter - Jon has also created many freeware utilities, as well as such excellent commercial programs as *Directory Opus*. He is also involved in educational programming.

Greg Perry and **Paul McNamee** - these two have collaborated on numerous projects, the best-known of which is *GPterm*, a communications program that has everything.

Paul Hayter - crafts small and interesting Assembly programs, usually public domain.

Chris Hames - author of numerous PD and Shareware programs, including the excellent *DirWork* directory utility.

John Rowe - also from the Toowoomba group, John has created numerous Workbench utilities for the public domain.

Robert Lang - writes in Assembler and concentrates on small powerfulutilities, usually released to the public domain.

Paul Coward - wrote *Macro68*, an Assembler for the Amiga, very powerful and full-featured.

Glen McDiarmid - wrote the most popular disassembler for the Amiga, called *Resource*.

Denis Green - Denis does quite a lot of programming work for museums in Queensland, and has written some PD utilities.

Mike Simpson - has written numerous PD programs, and his most ambitious project to date is *A-GENE*, a full genealogical program for the Amiga.

Keith Neighbour - has produced a number of very interesting astronomy programs, including *Constellation* and *Starmap*, PD but better than most commercial stuff.

"If you have any other information, or are producing things yourself, let me know"

Paul Pheloung - produced *StatPac*, a pretty complete Shareware statistical program for the Amiga.

Peter Kiem - writes in C, notably an Icon Editor in the public domain.

William Jordan - has written many PD programs in Basic, very prolific.

Mark Gladding - Editor of NZAUG's disk-mag, Mark has written a very sophisticated interface/editor for diskmags.

Chas Wyndham - has written a similar sort of program to Mark's, called *P-Suite*.

Mark Sibley - is the author of the commercial program *BlitzBasic*, distributed by MAST. The Pro version is soon to be released.

Craig Fisher - has written numerous PD utilities, and the commercial-list manager/printer called *Contact*, recently updated to Version 1.2.

Lex Eremin - has written some interesting editing software for musical purposes.

Sarv Engelhardt - writes adventure/strategy games, including *Citadel of Vras*.

Col Edwards - has written numerous interesting games, particularly wordgames, in C, all public domain. Also *The Insider's Club*, a stockmarket simulation.

B. Bester - wrote a complex PD game called *Truckin' On*, in which youcontrol a trucking empire.

Frank Hernandez - Writes in AMOS, particularly a Lotto simulator.

Peter Davies - of Enterpan Studios writes in *CanDo* amongst others, and has created some excellent presentations with original graphics and music.

Ray Markham - Ray has created numerous PD graphic programs, including a terrain generator.

Mike Fuller - A specialist in tiny, hand-tooled utilities, written is Assembler.

There are also numerous people putting together interesting graphics and sounds.

It should be noted that many of these programmers are not millionaires and are unlikely to refuse tokens of appreciation for all the time and effort they have put into their programming; and if you use someone's Shareware program you are obliged to send in the small fee they ask, because you're a good person, and you also want to encourage the continuing production of this software.

Not only that, but most are available for commissioned programming work - if you have a programming problem you need solved, you might be pleasantly surprised by the speed and quality of the work done by some of these local people. If you want to get in touch with any of them for any reason, contact me at Megadisc at the number above and I'll give contact numbers and addresses. ❑

Phil Campbell's EA Entertainment

All the latest news and views from the world of entertainment

ECP now officially Electronic Arts

First they were ECP. Then they were Electronic Arts / ECP. Now they're simply EA. Confused? It's easy. ECP were Australian distributors of Electronic Arts software. EA liked ECP so much that they bought the company. For a while it was known by both names, but now it's simply Electronic Arts Pty Ltd, or EA for short. "We're excited at the prospect of expanding our business in Australia and New Zealand", says Larry Probst, President of Electronic Arts. "We believe the Pacific Rim economy and consumption of consumer electronics will continue its dramatic growth." Hmmm ... I thought there was a recession on? Anyhow, Electronic Arts are consistently producing top class software, so they deserve our support!

AD&D challenge from EA

Eye Of The Beholder is the latest RPG in the AD&D series from EA. With me so far? You will be if you're a fan of role playing games. *Eye Of The Beholder* is different - it's the first completely graphics based title in the series. To celebrate, Electronic Arts are running a *Beholder Bonus* contest - win a canvas gym bag with cool AD&D logos crammed full of exciting software products with a retail value of over $250! How do you win? Simply get a copy of the game and watch out for the twelve special "Beholder Bonuses" through the game. When you've found them all, a special bonus screen will appear - send the password from the screen to EA, and the prizes are yours! For more information contact Electronic Arts on 075 911 388.

Amiga Railroad Tycoon

If everything has gone according to plan, the Amiga version of *Railroad Tycoon* should be in the shops right now. This Microprose title is a real gem if you're into railroads - even if you're not, it's almost as much fun as *Sim-City*. The PC version was hot - it scored the PC Game of the YEAR Award from the UK computer press.

F-15 II zooms closer

The gap in the Microprose Amiga airforce is about to be closed with the release of F-15 II. The original F-15 was only available in IBM PC format - version two is being specifically rewritten for the Amiga. The program is entirely written in machine code rather than the higher level C language, reportedly giving the game a real turbo-boost. Watch for further details.

Lexi-Cross from Electronic Arts

Here's a new word game with a difference - set in the 21st century, *Lexi-cross* is a TV game show featuring a board of 100 tiles. Spunky cyborg Robanna turns over the tiles one at a time, exposing hidden letters and prizes - it's up to you to decipher the hidden words and solve the puzzle by finding the theme that ties all the words together. You can also spin the money wheel, and buy hidden vowels. Already available for the PC, the Amiga version is due for release early next month.

See CDTV at July *World of Commodore*

The CD-TV is due for release at the World Of Commodore show at Sydney's Darling Harbour from July 12 to 14. This beastie will make a huge impact on the world of home entertainment - so book those dates in your diary, and make sure you see it for yourself.

Hints disk

Don't forget you can order an Amiga disk containing text files of all our entertainment hints and tips from the last two years. It's packed with good ideas, but you'll need a standard Amiga wordprocessor to read them. To get your copy, send a blank disk, stamped, self addressed envelope and a cheque for $5.00 (payable to Phil Campbell) to Phil Campbell, PO Box 23, Maclean NSW 2463.

Last Ninja 3 for C-64

Hold on to your hats! *Last Ninja 3* has just been released to rave reviews from the UK press. This black-belt beat-em-up scored an amazing rating of 100% from YC magazine! So what do we think at ACAR? We're sitting on the edge of our seats waiting for a review copy from Ozisoft! Full details next issue, including release dates for the Amiga version too.

New releases from Ozisoft

Watch out for titles like *The Killing Cloud*, a cops-n-robbers caper set in futuristic San Francisco. The city is enveloped in a cloud of poisonous smog - your mission is to get out on the streets and interrogate the Black Angel gang, who are somehow connected to the source of the mysterious killing cloud.

Then there's *Navy Seals*, an action packed arcade thriller, *Speedball 2*, a re-mix of the popular ball game with improved graphics and team handling, and *Dragon Wars*, a sophisticated, animated RPG for the Amiga, which sells for $59.95. C-64 users should watch for *Line of Fire* at $39.95, an action adventure featuring unlimited fire power, high speed powerboats and aircraft. Sounds good!

For more information, contact Ozisoft on 02-313-6444, or watch for our reviews soon.

Cinemaware reprieve?

Roving correspondent Andy Phang reports that there may be a spark of life in Cinemaware yet! The company was supposedly sold to Colombia Pictures, but the deal fell through, leaving things in quite a mess. But President Bob Jacobs hasn't given up - he's still at the helm, and desperately looking for a buyer. Any takers?

Meanwhile, a new title, *Enemy Within*, will be out in June. Reportedly the game at last uses lots of digitised speech and video footage - can't wait!

Entertainment Letters

Address your entertainment letters to PHIL CAMPBELL, PO BOX 23 MACLEAN NSW 2463, or fax them on 066 452060. Keep your musings brief and to the point, and make sure they're about games and stuff.

Mature advantage

Dear Phil, Please find enclosed my daughter's submission for the Hall of Fame. I actually watched her compile her score of 29,078 on *Tetris*. Do you know of any games where a certain - er - maturity gives the parent a decided advantage over the kids? Thanks for your highly entertaining section of the magazine.

John Cootes, Beecroft NSW

Ed: *I know the feeling, John. And the bad news is, games that give parents an advantage are as rare as hens' teeth. The only advice I can give comes from a recent episode of THE SIMPSONS, where Homer headed off to the local video arcade for some tuition. If you've got any dignity, though, the best solution is to read our Hints and Tips, then hide the magazine from your kids - then you can play in "cheat mode" and they'll be none the wiser! Thanks for your letter. Tiffany's high score has been entered in the Hall of Fame.*

C-64 Perspectives

Dear Phil, This is the first time I've written to you so I hope I don't bore you. I'd just like to make some comments and put my point of view on a few issues. (Don't we all?)

First, what a mega magazine! Although it doesn't have the same amount of info on the C-64 as in my first copy of ACAR back in March 1988, I guess the abilities and power of the Amiga can't be stopped. At least you are still trying with the C-64 and 128, like with the new section by Damian Caynes. What about the ICEMAN? All that time and two stamps that went down the drain with him!

Now about the Amiga. Is it ever going to stop? First the 500, then 1000, 2000, 3000, 4000 and then a 5000. Why couldn't they use the research and money to try to boost the sales of the C-64 and 128? After all, how

MINDSCAPE OBITUS WINNERS

This month saw a record number of entries in our **Mindscape** competition - most of them wrong! According to the official ACAR wordcount, Greg Munro's *Obitus* review had 649 words. Barrel-girl Madeleine Campbell selected these five winners from among the correct entries:-

Robbie Baker, of Boort (Vic), **Daniel Bonarius**, of Tamworth (NSW), **Taffy Jones** of Padbury (WA), regular letter writer **Embah Beaton**, of Downer (ACT) and **S. Weine**, of Farmborough Heights (NSW).

Congratulations, and thanks to **Mindscape** for the top class prizes!

MINDSCAPE COMPETITION

Wonderland is a superb adventure style re-creation of Lewis Carroll's famous ALICE IN WONDERLAND. The Graphics are beautiful, the game system is smooth and easy to use, and all the puzzles you would expect are waiting to be solved - like how do you draw treacle out of a well? How do you help the gardeners paint all the roses? And what do you do with the playing card in the teapot?

This is the game adventurers everywhere have been waiting for, and now you can win your very own copy! Mindscape are giving away **five** copies of the Amiga version, **which retails at $79.95.**

All you have to do is write the answer to these questions on the back of an envelope and mail it to:

Phil Campbell, PO BOX 23, Maclean NSW 2463 before June 31st.

First five correct entries drawn on that date will win.

So here are the questions...

1. What was Lewis Carroll's REAL name?

2. What was Carroll's main occupation?

3. Who was the original ALICE?

4. What month is the hare?

Easy, I know - so get to it, and get your answers in before it's too late!

many kids can afford an Amiga 500, let alone the 5000? It seems a waste to ruin such a popular computer as the C-64.

Finally, I have two requests. First, I need help with *Neuromancer*. Can anyone give me some advice. Second, my second greatest hobby (after my C-64) is collecting business cards. Could you print my address so people could send me their card?

A Batroc
39 Dalton St
Orange NSW 2800

Ed: *You've raised a lot of issues, but behind them all is a definite bias towards your good ol' C-64. It's still a great machine, and it's always going to be able to do exactly what it's doing now. The Amiga, however, can do heaps more. So what do you want Commodore to do? Live in the past? You ask how many kids can afford an Amiga 500. Well, let me tell you - when I bought my first C-64 it cost $699! What with inflation over the past 8 years, an Amiga 500 at around $799 would have to be great value. By the way, the Amiga 1000 actually came before the 500, and there's not yet any hint of an Amiga 4000 and 5000. When there is, they certainly won't be aimed at the "kid" end of the market!*

TV Sports for C-64

Dear Phil, Can anyone help me in finding a cassette version of *TV Sports Football* and *Jordan vs Bird* on C-64? Also, I would love a Rugby League game - would you know where I could get one please?

Michael Bradley
Urunga NSW

Ed: *There are soccer games aplenty, but I haven't seen anything for League fans. If anyone can answer Michael's questions, please let us know.*

ENTERTAINMENT HINTS & TIPS AMIGA

Send hints to PHIL CAMPBELL, PO BOX 23 MACLEAN NSW 2463. Next month's best tipper will receive a free copy of our Amiga Hints Disk, crammed with all the hints and tips published in ACAR over the last two years!

Rick Dangerous

Mark Peterson's problem has generated a big response.

First, George Knight of Berkeley Vale NSW writes as follows:- "Mark Peterson's problem with Rick Dangerous was one of mine for a long time. Immediately after Rick lands on the ledge below, he must crouch and move right until his body is about half over the ledge. Here timing is very important. An instant after an arrow passes overhead, you must hold the joystick hard up and right so that Rick bounces onto the first platform and immediately up and onto the second platform. When you finally get this to work, have Rick fire a bullet into the right hand wall to clear the spikes above the ladder which takes him into a lower chamber."

Thanks George. Another reader, R Hannam of Toowoombah Qld, says "After firing your gun to make the stone drop, get onto it and crouch. As soon as the stone drops again, crawl left and fall down, still crouched, and stay crouched.

Listen to the firing of the arrows and jump twice without stopping at the exact moment of firing. Fire your gun and the spikes will disappear allowing you to use the ladder." Mmmm - now is that the same as what George said, or different? I guess Mark Peterson will find out!

Pipemania

Not the same thing as Tas-mania, but almost! STUART GEORGE of Springvale, Vic, says there is a secret bonus of 50,000 points if you completely fill the screen with pipes. Stuart also sent the following tips...

Flood

We have already published the first twenty codes for Flood - Stuart sent the next twenty, so here they are:-

Level 21-HATE or MATE, 22-REED, 23-LIME, 24-QUID, 25-WING, 26-FLEE, 27-GIGA, 28-HEAD, 29-LOOP, 30-SNIG, 31-JOUX, 32-PINK, 33-GOGO, 34-LETS, 35-QUAD, 36-BRIL, 37-EGGS, 38-HENS, 39-NAIL, 40-SOAP, 41-FOAM.

Turrican

Type in BLUES MOBIL on the high score table for 99 lives.

SWORD OF SODAN

Type in NANCY on the high score table.

Stormlord

Type DRAGONBRIDGE on the credits screen.

Cybernoid II

On the title screen type NECRONMICON to ward off death, also press N for next level and L to restart the level.

My apologies to the reader who sent the following tips and a high

score - I've lost your name! Please let us know so you don't miss your moment of fame and glory!

Venus the Flytrap

Passwords:

Mantids - The Frozen Wastes.
Cicadas - The Dead City.
Psyllids- Wood World.
Satyrid - Death Valley
Lycaenid- The Creeping Swamp.
Pyralid - Tech Swamp.
Noctuid - Translucent Plant.

Special Power-ups.

Type these words in the password mode. MARS, PLUTO, JUPITER, SATURN, MERCURY.

Skidz

Hold down ALT key and press the fire button. While doing this press M to skip levels or C for infinite energy.

Thunderbirds Mission 1

Passwords to level 2 is RECOVERY. The other two codes are ALOYSIUS & ANDERSON.

Platoon

Type HAMBURGER on the title screen and press F1-F4 to be taken to various parts of the game.

Eye of Horus

In credits section type SPAM. Tou will now have Infinite Lives and you don't need colour coded keys to be able use the doors.

IMMORTALITY
or how to live forever in games!

Howdy doody folks! Welcome to another action packed, thrill-a-minute, stupendous, dynamic, ultra-hoopy, MK II IMMORTALITY column. No thanks to you, dear readers.

Yes, you are all guilty of gross neglection of my column! For the past TWO months (count 'em!) I've had to write this column with absolutely NO input what-so-ever from the outside world! Do you want the C64 to be downtrodden in this magazine or do you want more coverage each month?! If you want more coverage, it's up to you! Send those letters now!

The Amiga may be a superior machine, but the C64 is not dead yet. There are developments occuring even as I write in the evolution of the Commodore 64. I recently obtained some amazing new demos from Europe, displaying such things as advanced graphic techniques allowing hundreds of colours, and there are spectacular games being released on cartridge with 512k of memory! Now on a lighter note - The Tips!

Time Machine - Now here's a game programmed by the guy who actually developed those amazing cartridges I was rambling about. Unfortunately, this poke is also only for cartridge...POKE 31615,173 - This gives you infinite professors.

Ninja Massacre - Hmm, it seems that somewhere along the line one of the codewords in the April ACAR for this game was corrupted. So, instead of "HLE(?)" type "HOLE". Ok?

Lords of Chaos - I've heard that this "sequel" to *Laser Squad* is quite good, although personally I have only seen a demo. I think *Laser Squad* is better, but then that's just me, init?Ok, POKE 40540,X (Where X is 0-3) and make sure you use your cartridge (ie. Action Replay etc.). This poke changes the level of your Wizard...

Red Heat - Yay! Arnie Schwarzenburger is cool, and so is this game if I do say so myself (and I do). Here are some pokes for it:-POKE 3108,165 - For unlimited Arnies.POKE 3358,165 - For infinite energy.

Batman - The Movie - Hmmm, I think the Batmobile and Batplane parts of this game could have been better. Maybe they could give away a free Amiga with every game so you could play the marvellous Amiga Batmobile bit...Well, if you want lots of infinites (cheat!) then type these li'l numbers in: - POKE 4806,173 - Infinite energyPOKE 4866,173 - Infinite Bruce Way... Batmen POKE 5060,173 - Stop the clock

Ninja Warriors - This is one terrific game, if you like that sort of thing. Dodge-jump-stab-punch-throw shiruken games were all the rage a while ago. Hmm, I know a guy that thinks he's Jackie Chan. Weird, huh? POKE 2727,173 - Infinite time POKE 15905,0 - Infinite energy

Well, that's all for this months mix of pokes, controversy, lunacy and, erm, lunacy... PLEASE send your tips, pokes, money, cars, letterbombs to me:

Damian Caynes,
4 O'Connor Drive,
Bray Park, NSW 2484

Hall of Fame

Send your authentic high scores to
Phil Campbell,
PO Box 23 Maclean
NSW 2463. Please mark
clearly whether your scores are for
C-64 or Amiga. And remember -
NO CHEAT MODES ALLOWED!

AMIGA

ARKANOID 976,548	Kamikaze Andy
AMAZED 130,500	Chris Turnadge
BATTLE SQUADRON 99,999,999(c)	Amos Burbidge
BEYOND ICE PAL. 67,626(c)	Chris Turnadge
BLOCKOUT 85,281	Stephen Lark
BOMBJACK 200,680	David Thompson
BUBBLE + 276,850 (c)	Chris Toyne
BUBBLE BOBBLE 1,200,460	V. van der Heyden
BUGGY BOY 103,350	David Thompson
CHASE HQ 5,504,010	Angelo Augostis
CONT. CIRCUS 4,529,690	Amos Burbidge
CRAZY CARS 86,064,640	Kristian Wehner
CRAZY CARS CHALL 3 Billion	Michael Summers
CRYSTAL HAMMER 43,847	David Thompson
CYBERBALL 475,000	David Marsh
DENARIS 53,900	Peter Evans
DRAGON NINJA 246,400	Rod Matthews
DOUBLE DRAGON 124,630	James Knight
ELIMINATOR 246,570	Greg Munro
FLOOD 6,455	Embah Beaton
GEE BEE AIR RALLY 307,466	Kamikaze Andy
HYBRIS 1,826,075	Embah Beaton
IK+ 114,400	Scott Southurst
IMPOSSIBLE MISSION 66,380	Diane Unwin
INDIANA JONES L.C. completed	Phillip Nicoll
SS 1,420,450	A G Smyth
KARATE KID II 54,000	Michael Summers
LEATHERNECK 86,500	Shane Crosland
LIVE AND LET DIE 96,520	Merekee Beaton
MAJOR MOTION 50,658	Owen Webster
MENACE 996,481	Kamikaze Andy
MIDNIGHT RESISTANCE 228,755	Angelo Augostis
MINDWALKER 306,214	P Schumacher
MOUSETRAP 71,977	David Rich
NITRO 233,000 (c)	Andrew Gormly
N. Z. STORY 546,695	Embah Beaton
OPERATION WOLF 344,800	John Boyle
OUTRUN 26,331,122(c)	Benjamin Moen
OFFSHORE WARRIOR 626,345	Jacob Booth
PACMANIA 3,250,140(c)	Amos Burbidge
PINBALL MAGIC 332,390	Tracey Chilcott
PINBALL WIZARD 171,150	Aaron Sanderson
PIONEER PLAGUE 35,412	Keir Sooby
PLUTOS 129,450	David Rich
POPULOUS 307,860	Maverick
POW 612,865	David Thompson
RAINBOW ISLANDS 781,370	Jurrun Beaton
RAMPAGE 111,600	Kamikaze Andy
ROBOCOP 375,520	Michael Summers
ROTOX 183,050(c)	Faye Doherty
SIDEWINDER 8) 1,250(c)	Amos Burbidge
SILKWORM (Heli) 1,936,000	Daniel Everton
SILKWORM (Jeep) 622,500	Daniel Everton
SKWEEK 2,403,880	Embah Beaton
SPACE ACE 22,140	Neville Clarke
SPEEDBALL 17,650	Amos Burbidge
STARWARS 5,722,822	C. Mingos wave 33
STRIDER 113,950	Kamikaze Andy
SUPER CARS 17 races	Maverick
SUPER HANG-ON 25,042,850	David Worthy
SWORD OF SODAN 364,750	Kamikaze Andy
TEEN.M.N.TURTLES 546,600(c)	James Leeken
TEST DRIVE 131,076(c)	Jordan Noglet
TEST DRIVE 2 521,918	David Banks
TETRIS 29,078	Tiffany Cootes
TETRIX Level 232	Stephen Lark
THUNDERBLADE 336,520	Rod Matthews
THUNDERCATS 522,300	Scott Southurst
TOWER OF BABEL 25,934(c)	Stephen Lark
TURBO OUTRUN 100,260,819	Matthew Mantle
TURRICAN 1,302,650(c)	Stephen Lark
TV-SPORTS F.BALL 189-0	David McKinney
TWINWORLD 24,640	Carol Love
TYPHOON 54,255	Owen Webster
VIRUS 14,576	Amos Burbidge
WHIRLIGIG 28,210	Nathan Allen
XENON II 1,107,280(c)	Mark Porta
ZOOM 67,051	Steve Jones

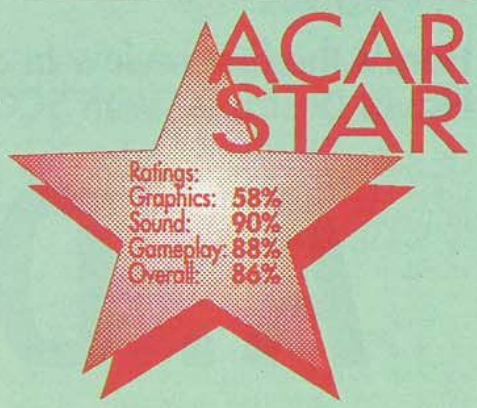
COMMODORE 64

BATMAN 473,230	John Nunes
BATMAN-THE MOVIE 1,087,080	Michael Bradley
BANGKOK KNIGHTS 36,800	Nick Van Heeswyk
BOMB JACK 521,820	Adam Wade
BUBBLE BOBBLE 4,409,030(c)	John Nunes
BUGGY BOY 153,000	Adam Wade
CHASE HQ 9,220,121(c)	ICEMAN
DOUBLE DRAGON 30,660	Joshua Smith
DOUBLE DRAGON II 255,190	Nick van Heeswyk
FAST BREAK 136 to 9	Chris Byrne
GIANA SISTERS 105,200(c)	Russell O'Neill
GRYZOR 203,900	Paul Millward
H. MARADONA Level M	N. van Heeswyk
HAWKEYE 207,650	Adam Wade
IKARI WARRIORS 267,800(c)	Iceman
INT. KARATE 139,300	Paul Millward
LAST NINJA II 25m08s (c)	Marc Bell
OPERATION WOLF 374,900	Adam Wade
OUTRUN 15,316,780	Adam Wade
PAPERBOY 103,100(c)	John Nunes
POWERDRIFT 831,490	Adam Wade
QUE-DEX 639	Chris Byrne
R-TYPE 1,280,500	Joshua Smith
RAINBOW ISLANDS 2,233,820	Adam Wade
ROBOCOP 82,250	Tim Lockwood
ROLLING THUNDER 256,590	Adam Wade
SALAMANDER 235,300	Paul Millward
STREET FIGHTER 168,900	Adam Wade
SUPER CYCLE 214,640	Adam Wade
TEST DRIVE 36,144(c)	John Nunes
TEST DRIVE II 249,543 (c)	A Batroc
TETRIS 25,706 (326 lines)	A Batroc
THUNDERBLADE 1,734,040	Troy Morrison
THUNDERCATS 57,500	Chris Byrne
TARGET RENEGADE 330,450	C. Byrne (clocked)
TRAZ 54,560	Dave & Sue Upton
UNTOUCHABLES 70,230	Simon Watford
WONDER BOY 535,450	A Batroc

Scores followed by (c) indicate that the game has been completed.

Oh no! Just when you thought it was safe to go flying again, ANDY PHANG gets a job as an Air Traffic Controller...

Tower FRA

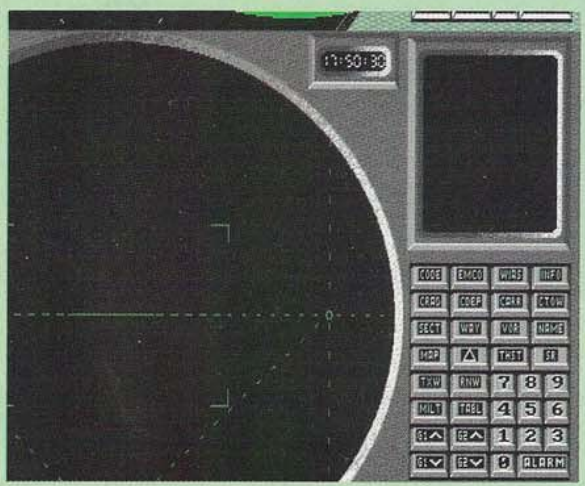


What an intriguing software title from German publishers Thalion. Just what is a FRA? Maybe some of our German readers out there can enlighten me.

I may not know what FRA means, but *Tower FRA* is a new simulation on the Amiga dealing with the tasks of your everyday airport controller. This game is certainly a great departure (pun intended) from Thalion's last effort, the adventure game *Dragonflight*.

If you thought airport controllers had an easy life, think again. With planes landing and taking off every minute, it's your task to ensure that each plane receives correct instructions and avoids mid-air collisions. This can get especially hectic in the higher levels of the game (of which there are ten). Planes will appear out of nowhere, demanding your constant attention and patience. Concepts like "stacking" airplanes over radio beacons, sending out transponder codes to planes waiting for take off, and even controlling the emergency forces of the airport should there be some problem with incoming planes are part of the job.

Luckily you can only start off at the lowest ("holiday") level of difficulty, and work your way up after successfully manning your post for a certain amount of time. You also have a choice of four airports to work from, ranging from a small country airport that only services light planes, to the Munich and the constantly busy Frankfurt airports.



Tower FRA lets you choose any four of the major tasks performed by airport controllers. The first is Departure control (guiding outgoing planes into correct sectors of the radar screen, as well as deciding on their speed and altitude). When you're in Arrival control, you must determine the direction a plane should take in approaching the airport, taking into consideration wind direction and the speed of the plane).

Radar control gives you control of the skies over the airport, and you must direct incoming aircraft towards the airport sector, while making sure that other planes not scheduled for landing will fly past at a safe altitude. Finally, Tower Control is the most difficult of the lot, as you actually control the take-offs and landings of the planes. Selecting the correct runways and taxiways to prevent a plane in descent from meeting a plane in ascent can be extremely harrowing, especially if your airport only has one runway!

The graphics are nothing to shout about, since all you ever get to see is one rather huge mean green radar screen, with control panels to the left and right. Airplanes on the radar appear as triangles or rectangles, with their flight numbers, speed, and flight level (altitude) statistics below.

A mini computer to the right of the panel allows you access to information such as wind changes, runway situations, radio beacons, and emergency personnel. On the left, a control strip displays the status of incoming and outgoing flights, and lets you communicate with the pilots (either to tell them to raise or lower their speed, to inform them of the correct runway they should use, and so on). The graphics are not supposed to be flashy; after all this is a simulation of a typical control tower!

Sound is excellent, as the pilots actually speak to you when asking for instructions, and your replying commands are also spoken out via radio. I think the designers used the built-in Amiga synthesizer, but it sounds like it has been digitized (it's that clear and realistic!)

Tower FRA also boasts an excellent manual, which goes into great depth over each aspect of the game and of a typical airport controller's duties. It comes on two disks (the second being a data disk, and Thalion promises that more data disks will be come available and will feature different airports), and also requires 1 Megabyte of memory.

The sense of achievement after completing each gruelling level is part of the addictiveness. Here is another game which proves that beautiful graphics are not necessary if the gameplay is just right. *Tower FRA* may not be an arcade game, but it certainly is non-stop action all the way! ❑

Distributed by:
Pactronics
02 748 4700

RRP:
Amiga $59.95

Here's the first review in our special Maritime double - climb aboard a Naval Destroyer with SCOTT CAMPBELL as he takes the helm in ...

A.D.S.

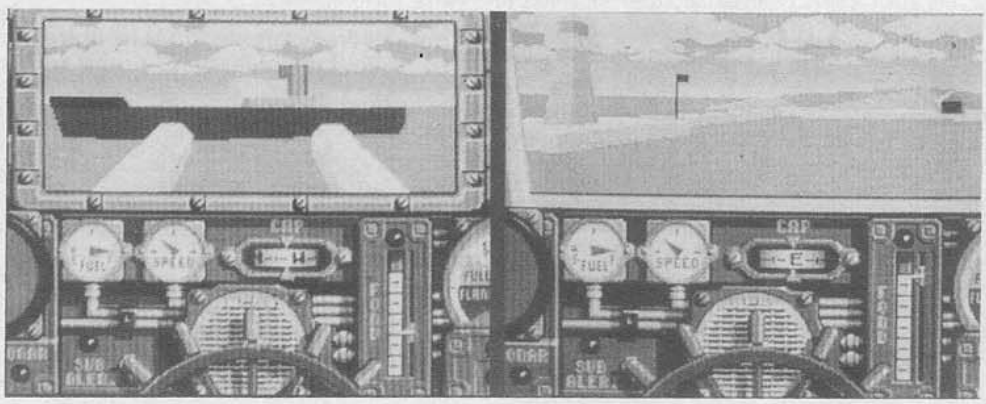
Advanced Destroyer Simulator

In the modern-day world, where the smart, sophisticated weaponry of the super-powers is only going to get more high-tech, it's something of a comfort to go back to a relaxing, absorbing and skilful combat simulation like *A.D.S.* This game re-creates many of the sea-battles of WWII - in the Mediterranean, North Atlantic and English Channel.

Yeah, okay, I know that at the time such things looked like futuristic nightmares, but then so did the sight of steam-trains at one time, and what do they represent now? Gentle, relaxed sunny afternoons, drinking a cup of tea as you puff along. And while I've never been a fan of ship-sims myself, feeling more at home behind the sights of an X-wing fighter, even I was touched by the sight of distant ships on the sparkling blue horizon.

Your ship may not pack the wallop of a *Xenon* Megablaster, but you'll find that these old ships, many of which are still going, pack an awful lot of shells and torpedoes - enough to keep even the most bloodthirsty pirate happy. However, realism is the name of this game, and the realistic limitations imposed on your weaponry and manoeuvrability make for a different sort of challenge, one which can provide real tension.

But don't worry if you think this means a whole new bunch of controls to learn, as per flight simulators. Here the controls are simple to operate and there are hardly any to learn. The only thing you need is a feel for how a ship operates and moves. My reflexes still make me turn the rudder the wrong way every time!



The makers of the game have successfully balanced the need for detailed realism in the graphics against the demands for a good, realistic simulation. The graphics are a bit boxy, but they look good enough. This allows the game to run at sufficient speed, and for the ships to move about in 3D space believably.

The view you have of the action is nice and wide. The control panel, which gives you all the info you need, takes up a large proportion of the bottom half of the screen, but width is what you need in this game, and it's what you get. There is a binocular mode for looking into the distance, though irritatingly it's loaded from disk every time.

You also get views from the three cannon turrets, which you can swivel about four ways, and the two torpedo tubes on the sides of the ship, so you can pump lead into the enemy ships until they finally start to burn, and you know you've got the swines.

I shouldn't boast, though, as I've only tackled some slow unarmed freighters. I'm not yet game enough to take on the tougher missions against destroyers faster and more dangerous than my own.

Extra complications include Stuka attacks and submarines. In the North Sea you have to find camouflaged ships, and in the English Channel there are troops to protect. There is a map mode which gives you a good indication of where you and the other ships are, and in this mode you can speed up your journey as long as you aren't near other ships or land. You have radar to track ships at a closer range.

If you're interested in sea-battle simulation, have a good look at *A.D.S.* It seems that such sea-battles are virtually a thing of the past, and they may only exist in the future in sims like this. And this one is definitely recommended - it's the best I've seen! ❑

Distributed by:
Mindscape
02 899 2277

RRP:

Amiga	$69.95

Ratings:

Graphics:	71%
Sound/Music:	70%
Gameplay:	90%
Overall:	**85%**

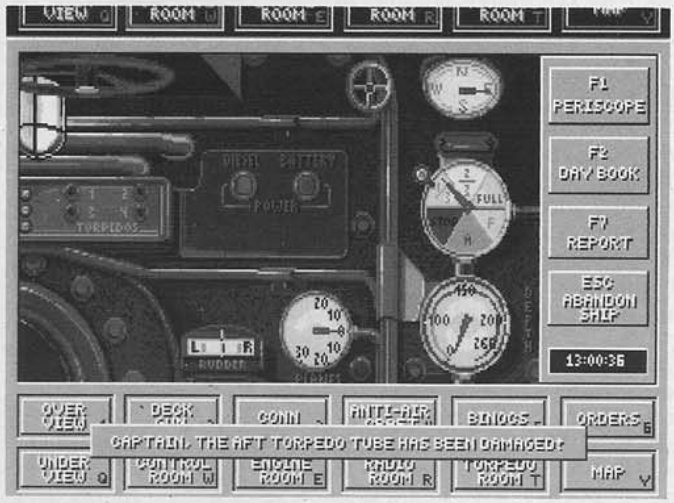
FUTURA

In Part Two of our sea-faring special, PHIL CAMPBELL reports on the view from the other side of the Atlantic as he takes the helm of a German U-Boat ...

DAS BOOT

Winter, 1941. The icy waters of the North Atlantic close in around you as depth charges pound against the hull of your U-Boat like iron fists. Enemy aircraft patrol overhead, and the murky waters around you are littered with mines. This mission is no picnic!

You raise the periscope for a quick look at the outside world - make it fast, because you don't want to be spotted by the American planes. Charting a course to safety, you shout your orders to the main control room. Periscope down, you dive. Deeper, deeper, till the steel framework of your sub begins to groan in protest. Any further, and the pressure hull may be crushed.



We're playing *Das Boot*, a classy simulation of life on a German U-Boat in the heat of the Second World War. It's a dangerous life. Of the 40,000 German submariners who put to sea during the war, only 10,000 returned. And of the 820 U-Boats that participated in the Battle of the Atlantic, 781 were destroyed in action. In other words, the odds are stacked against you - so don't expect to win.

Submarine simulations are nothing new. *Silent Service* was released to rave reviews in 1985. The sequel, *Silent Service II*, has just been released by Questor (ph 02 6627944) with greatly enhanced graphics and sound effects. Just one problem. For a simple guy like me, there's a lot to learn - you'll need plenty of practice before you start to enjoy the thrill of the battle. *Das Boot*, on the other hand, is much more playable - you'll be firing your first torpedo in moments.

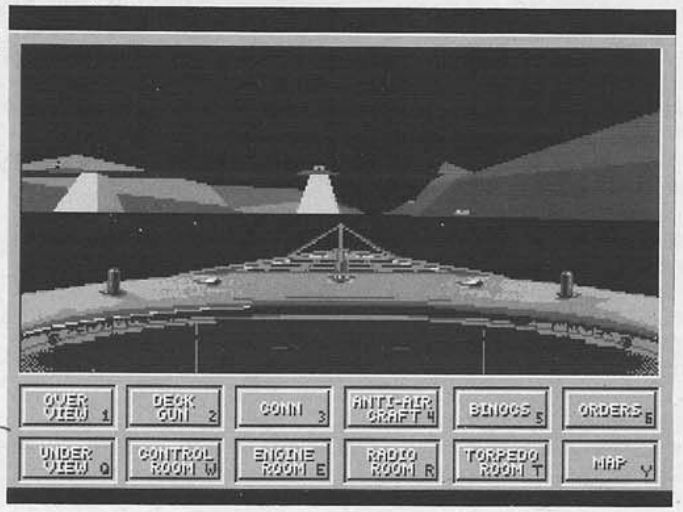
Don't worry. There's plenty of detail. But *Das Boot* has got action and drama as well. Dodging surface mines is almost like racing in a slightly ponderous slalom in "accelerated time" mode, your 915 ton U-Boat weaves and sidesteps with graceful ease. Well, almost.

Manning the deck-mounted guns is good fun too - but don't try it until you reach the surface. Enemy planes are buzzing everywhere, just waiting for you to shoot them down in flames. I managed to down at least one of them at my first attempt - a good effort, though in the meantime the air attack had destroyed my rudder, damaged my torpedo tubes and taken the engine room out of commission. A minor inconvenience - I'm playing easy mode, so there's a team of fast working mechanics on hand to start work on the repairs.

Action stations aside, *Das Boot* offers plenty of opportunities to immerse yourself in the details of controlling your very own submarine. Engine room and control room screens are detailed. The principles of operating a diesel-electric sub are well explained and realistically implemented. There's a definite trade-off involved - you can't operate on diesel power when submerged without dramatically depleting your air supply, so you'll usually operate on electric power unless you're on the surface. You'll need to watch your fuel and air levels, and especially the charge of your battery cells. When they drop too low you'll need to surface so your diesel engines can recharge the cells.

There's plenty more. Like the radio room, where you can send and receive encrypted messages. And the map room, where you will chart the course for your missions. There are a bunch of navigational and detection functions to master too. But all that can wait. The beauty of *Das Boot* is that it's a well balanced game - some easy thrills in the shallows, but plenty of depth for the experts.

Das Boot is packaged with a 563 page novel - a genuine multi-media experience. ❑



Distributed by:
Electronic Arts
075 911 388

RRP:

Amiga	$69.95
IBM	$69.95

Ratings:

Graphics:	77%
Sound:	78%
Instructions:	82%
Overall:	**79%**

Quick Shots

A quick look at what's new in the world of games

INSECTS IN SPACE

The scenarios for computer games are becoming more and more bizarre. *Insects In Space* from Hewson features a naked heroine called Helen Bak with feathery wings and laser eye beams, flying around whilst mutated bees carry babies up into the sky, drop them to a grisly death and give birth to a fly in their excitement.

Does that sound weird? Well wait for this, there are two worlds, mirror imaged at the top and bottom of the screen. When a bee picks up a baby, it rises into the sky then drops it. If Helen manages to catch the baby it is worth bonus points. Depending on how many babies are held, bonuses range from points and extra babies to skipping levels, extra powers and shields. An angelic cherub appears when you rescue two top babies and one bottom baby and then fly into a warp which appears when you hold down the joystick button - these give you more firepower at the top or bottom depending which world you were on.

On higher levels the foes get progressively worse, dragonflies, maggots, smilies and more, each with its own attack pattern and power. The sprites are beautifully detailed with the main character animated with flapping wings, bouncing boobs and a very dopey expression on her face.

Control is by joystick and this brings me to the only flaw in the game - when you turn to face the other way, the whole screen and character moves a little in the opposite direction. The only problem is if there was an enemy critter just off screen when you turn around, you'll find yourself hurled straight into it when you turn, causing death and loss of credits. This makes the game a bit harder than it should be, but nevertheless, it is a fast-paced, colourful and difficult game with a plethora of attack waves and foes, sound effects, bonuses and powers.

Ratings:

Graphics	80%
Sound	71%
Gameplay	75%
Overall	**75%**

Distributed by:
Pactronics
02 748 4700
RRP: Amiga $59.95

by Tony Smith

SPEEDBALL 2 BRUTAL DELUXE

The Bitmap Brothers are at it again! Yep, the paradigms of perfection have perpetrated another prime piece of programming with *Speedball 2*. This is the sequel to the game that first brought the Bitmap boys to fame and glory - *Speedball* set new standards in presentation and style. And this time it's no different. The first thing that hits you in the eye is that the graphics are magnificent - these guys have got the smooth metallic finishes down to absolute perfection.

Speedball is a futuristic sport that makes Rugby League look like a game for pansies. The action is fast and furious, and sometimes hard to follow. There's plenty of biff - if your opponent has got the ball, don't hesitate to hit him however you can!

The game screen shows a view from above - both teams run around the field aimlessly until the ball comes into play. Then your closest player is highlighted, and he's under joystick control. In essence, it's a little bit like all those soccer games you've seen in the past - but with a lot more biff, a lot more speed, and a lot better graphics.

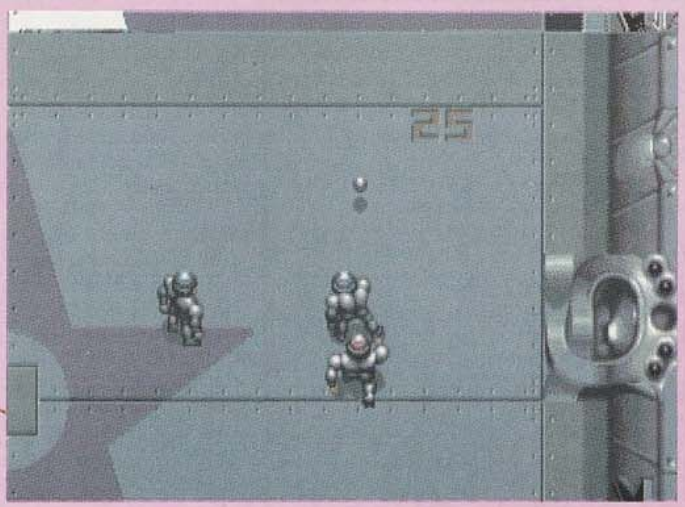
You can also fiddle with the teams and the characteristics of each player, so there's a tactical element involved. Digitised sound effects are great too - from the ice cream man in the crowd to the calls of the referee.

All in all, a beautifully presented game, though maybe a little hard to get into at first - there's just so much happening on the screen it's hard to know which bits have got anything to do with your waggling of the joystick!

Ratings:

Graphics:	93%
Sound:	83%
Gameplay:	81%
Overall:	**82%**

Distributed by:
Ozisoft
02 313 6444
RRP: Amiga $59.95



SUPER MONACO G.P.

Speed, speed, speed. If it's speed you want, then look no further - because *Super Monaco GP* has got loads of it. Add some better than average graphics and a competent sound track and you've got the makings of a very addictive game.

Before you play you'll need to qualify. First choose whether you'll play with mouse or joystick, then pick your skill level, and it's off for a practice lap of the French GP circuit. It's essential that you do well here - otherwise you won't even make it into the racing phase. So it's just you against the clock, and a bunch of roadside hazards. Trouble with the roadside hazards is they keep sort of jumping out at me - well, not exactly, but they're very hard to miss, especially if you don't pick the right line through a corner.

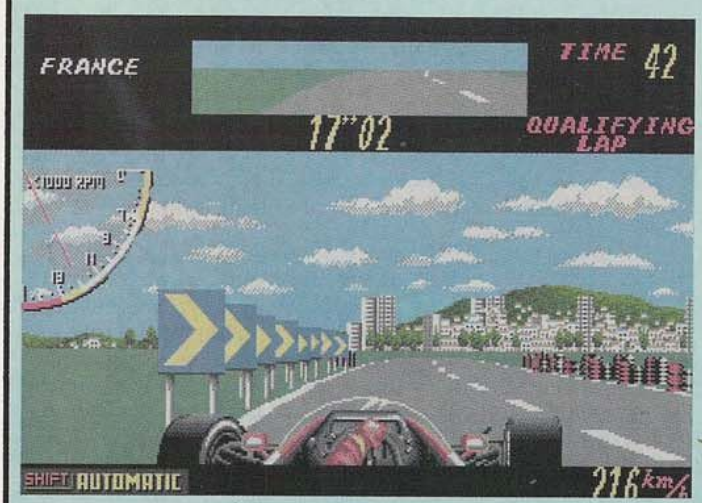
Once you finally make the grade it's off to the GP. Now you've got the added complication of 15 other cars on the track - it's far from easy, and it only takes one smash to see you out of the race. Game over, and back to the qualifying rounds.

Graphics in *Super Monaco GP* are great - your view is from the eyes of the driver - you'll see your hands jiggling back and forth on the wheel in the foreground, the cockpit, the track, and in the distance the city skyline. The effect is nice, and by keeping the screen size fairly small the programmers have managed to attain both high speed and good detail. In a word, *Super Monaco GP* offers plenty of high speed thrills in a game that's easy to enjoy, but challenging to master.

Ratings:

Graphics:	84%
Sound:	74%
Gameplay:	83%
Overall:	**82%**

Distributed by:
Ozisoft
02 313 6444
RRP Amiga $59.95
C64 $39.95



WIZARD'S WORLD

The world of Crumpt has been under seige. Worlo the Wizard has kidnapped all the Muffy people and taken them back to his wizardly world - Muffin the Muffy is the sole survivor. He escaped the wicked wizard's clutches, and sets out to rescue his little mates.

Well, okay, you've heard it all before - but it sets the scene for this neatly programmed little platforms and ladders game from Australian programmers Dean Fruzer and Michael Matthews. Dean is responsible for the artwork, Mike did the code.

This is their first game, and it's top class, with all the standard bonuses, traps, and baddies that you'd expect. There are 43 screens full of action, with plenty of strategic decisions to make. Graphics are full 32 colour, and the guys have managed to achieve 50 frame per second animation. The music is fast and boppy, and the overall impression is bright and breezy - the perfect game for kids, and at the budget price of $30.00 it's good value. Buy Australian!

Ratings:

Graphics:	78%
Sound:	76%
Gameplay:	75%
Value:	82%
Overall:	**75%**

Distributed by:
Stratagem
062 586 619
RRP Amiga $30.00



Now for the third installment in our sea-battle super special - ANDY PHANG leads the fleet into battle in this strategic masterpiece ...

HARPOON



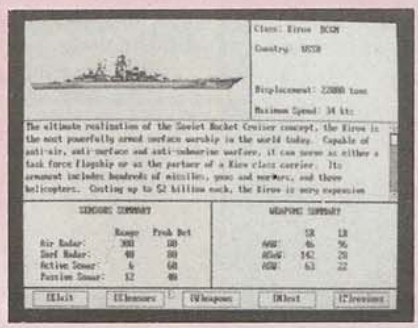
"Captain! Captain! Radar indicates unidentified craft, bearing 20 degrees South West, and heading this way, sir!"

"Hmmm. We have no known report of friendly forces in that area. Crew on standby! This is a red alert! RED ALERT!"

When you're the Side Commander of NATO air and naval units in northern Europe, every unidentified craft can be the enemy. It may be a simple naval exercise conducted by the Soviet fleet, but for the safety of your forces, Europe, and the entire free world, you can't afford to make any mistakes. Just how do you rise to such an important rank in the Western military hierarchy? Simple. Buy *Harpoon*, the latest Amiga offering from Three-Sixty Software.

Harpoon has an interesting background, as the computer game is actually an adaptation of a board game (of the same name), and the designer of the original *Harpoon* is none other than writer/wargamer Larry Bond.

The exhaustive research undertaken by Bond in producing the data for *Harpoon* was most notably brought to public attention by the release of Tom Clancy's book *The Hunt for Red October*. When a United States inquiry into the "sensitive" data found in *Red October* and Clancy's other novel *Red Storm Rising* asked where Clancy got his information, he told them. All of the technical data on US and USSR warships,



submarines, aircraft, and combat strategies, came from his old friend Larry Bond's boardgame, *Harpoon*. The boon for us computer wargamers is, of course, that the binary *Harpoon* contains that very same database of statistics.

Harpoon is a strategic wargame, pure and simple. Marshal your forces, deploy air and sea units, and achieve your objective as defined by the orders you are given at the beginning of each scenario. The original game package itself comes with the GIUK (Greenland, Iceland, United Kingdom) Battleset, and there are currently two other battlesets available on the Amiga.

The GIUK scenarios are set in the northern European seas, and your goals as Side Commander will largely depend on which side you choose to play (yes, you can be a Soviet Commander if you so wish). If you haven't already guessed by now, the Soviets are viewed as the "bad guys" in *Harpoon*. You invade, you conquer, and you generally take over every bit of territory that can be taken over, in the name of the Great Red Patch Upon The Leader's Head. If you're the NATO leader, you're always on the side of good, and must prevent this Russian plague from spreading further.

Part of the brilliance of the game is its depth. Again, with the "Bond" database at its disposal, Three-Sixty has been able to cram every bit of vital military data into two disks. When you call up the specs for a Soviet built Akula class submarine, a picture of the craft and its relevant details are immediately on screen. With this, you can decide whether an American Sea King helicopter or a Spanish Orion plane will be better suited to take out the offending sub. Depth also extends downwards to include factors such as weather conditions, staff reports, determining attack formations, and so forth.

As with most wargames, the graphics in *Harpoon* would not make your Amiga shine. A series of graphic windows informs you of the relevant details, and there is a map of the area of conflict on the top half of the screen. Click on the actions you want your subordinates to carry out, and in some cases the takeoff of fighter planes or helicopters can be accompanied with appropriate (digitized) sound effects. There isn't much use of colour, and the game can be a little slow in responding (apparently running *Harpoon* on a 68020/30 will speed up gameplay).

The thick manual will need some time to get through, but must be studied in order to grasp the game mechanics. Finally, the package also comes with a booklet containing game strategies from none other than Larry Bond himself (by the way, Bond was also part of the team that designed the computerized *Harpoon*).

Harpoon is definitely the strategy game of the year, and what makes it so is the comprehensiveness of the Bond database. Complete realism, and giving wargamers actual statistics of East and West military might, puts *Harpoon* in a class of its own. Be watching for the upcoming Persian Gulf Battleset, which will reportedly feature every available statistic on Operation Desert Storm. ❑

Distributed by:
Electronic Arts
075 911 388

RRP:

Amiga	$69.95

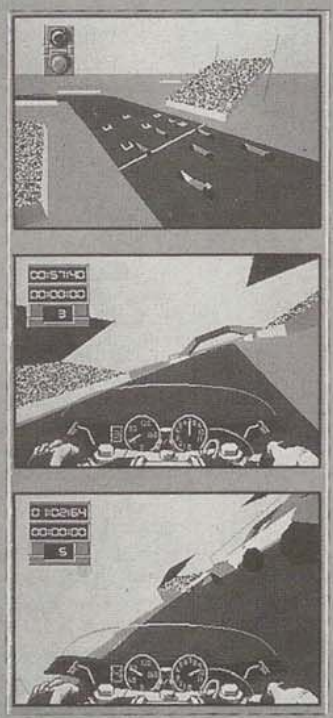
Ratings:

Graphics:	70%
Sound:	60%
Instructions:	95%
Overall:	**91%**

Time to "get on yer bike" as DAVID GLOVER checks out a master-piece of polygonal propulsion...

Team Suzuki

I stare down the straight, my body hunched over the handlebars. My heart pounds and my palms sweat. Kevin Schwantz sits on my right, Kevin Magee on my left - good to see you back, Kev. Green light on. A deafening roar as clutch and accelerator combine to bring 500cc of Suzuki powerplant to life. We leave the grid as one and hurtle toward the first corner.



So begins another racing season as a member of *Team Suzuki*, a computer game which is the result of close collaboration between Gremlin Graphics (the game designers) and the real Team Suzuki. Their objective was to produce the closest thing to real bike racing available on a home computer.

Suzuki provided very detailed information to Gremlin ranging from general technical data about the bikes, to videos of the circuits taken from a camera strapped to the side of one of their machines. The result is a bike racing sim that accurately reflects the sheer brute force of a 500cc Suzuki capable of of accelerating from 0-60 mph in 2.7 seconds, and with a top speed of 186 mph.

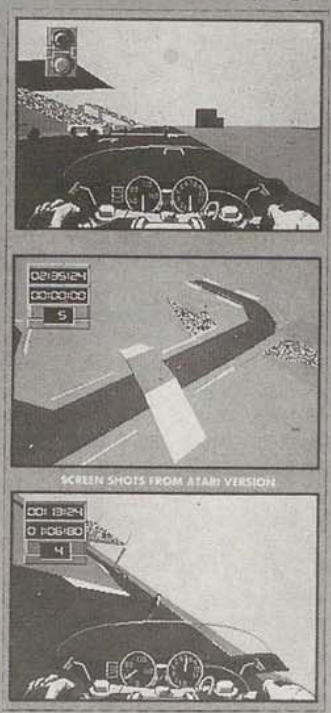
The objective of *Team Suzuki* is simple: to be the fastest rider in the world by finishing at the top of the points table at the end of a sixteen race season. Each race is held on a different circuit ranging from old favourites like Le Mans, to our very own Phillip Island (sorry no Eastern Creek, yet). The game designers have ensured that each circuit represents a complete replica of the original track, so that you and the other seven riders get to feel every camber and hairpin there is to offer.

Team Suzuki is fast! The programers had to make the age-old trade-off between fancy graphics and game speed. They opted for speed! The game uses filled-vector graphics, resulting in a chunky, blocky looking bikes and a landscape scattered with straight lines and polygons. The screen may not be pretty, but the effect is highly satisfying with very smooth scrolling and the sensation of genuine speed and motion.

You have a choice of three bikes. The smallest, the 125cc, has automatic gears and is therefore the easiest to control. As you would expect, the 250cc and 500cc machines handle quite differently. Both have manual gears and require extra skill accordingly. Handling these 2-wheeled pieces of Japanese technology ain't easy - even the 125cc "baby" is a tricky little beast to control.

Accuracy in picking your line through the corners is absolutely critical. If you weave off the track too much you sustain "damage points" - 100 of these and it's back to the pits in disgrace, although if you run off the road and "stack it" into a fence (or similar) the program is very forgiving. I haven't actually written off a bike in one fell swoop yet, and heaven knows I've tried!

The game offers three choices of control: keyboard plus mouse, mouse alone or joystick. I did best with the joystick. Once you think you've practised enough, it's time to put your newly forged skills to the test, either in a single race (where you get to select the track) or a full 16 race season. Qualifying takes place before any race - the time you achieve in qualifying will determine your position on the grid. Then it's time to get really serious: the race is on!



SCREEN SHOTS FROM ATARI VERSION

The game design allows a 3D pespective: the bike can also be watched in practice mode from several other points of view - sort of an "out of body experience". There is an automatic action replay of race finishes and crashes - I've seen myself crash from so many angles I'm beginning to wonder whether I'm still eligible for medical insurance.

Team Suzuki is an excellent bike sim. It's fast and realistic, but don't expect detailed graphics. If you like the thrill of the race and the chase then this one's definitely for you.

Distributed by:
Mindscape
02 889 2277

RRP:

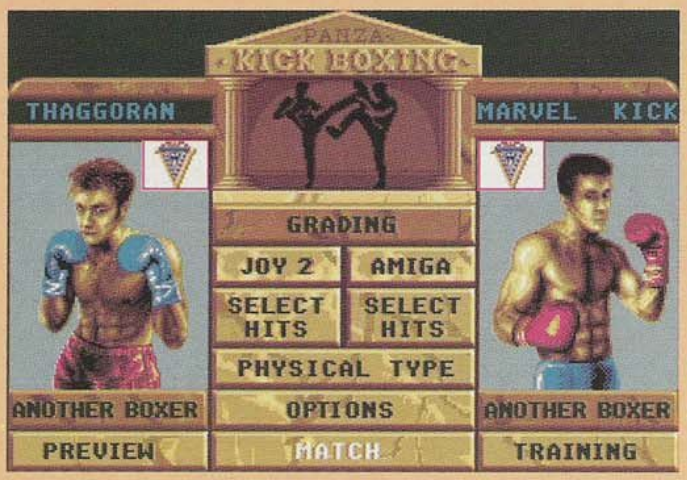
Amiga	$69.95

Ratings:

Graphics:	78%
Sound:	85%
Instructions:	90%
Overall:	**84%**

Kick Boxing is a nasty business. To play, you'll need to be rough, tough, and ruthless. JURIS GRANEY has got what it takes - but have you? Read on and find out ...

Panza Kick Boxing



Andre Panza is Kick Boxing world triple champion and French Boxing European double champion. He is a University graduate in Judo and English Boxing and also the International Coach and Technical Manager of a League in Kick Boxing. He is a high style boxer with a devastating punch. In a word, he's good at everything.

Enough about Andre. What about the actual sport of Kick Boxing? Kick Boxing is a fighting sport where the fighter uses both foot and fist. Thai Boxing, French Boxing and Full Contact are three other sports belonging to the same family. Kick Boxing is a quite recent sport.

I have always liked a bit of senseless violence in my games, so *Panza Kickboxing* had immediate appeal. Loading doesn't take very long, and then it's time to create a character. There are eight boxers to manipulate - I picked one and renamed him. How does "Julian" sound? Then it was off to train. There are three main factors involved in becoming the best boxer - strength, resistance and reflex, all of which can be improved in the gym and in the boxing ring.

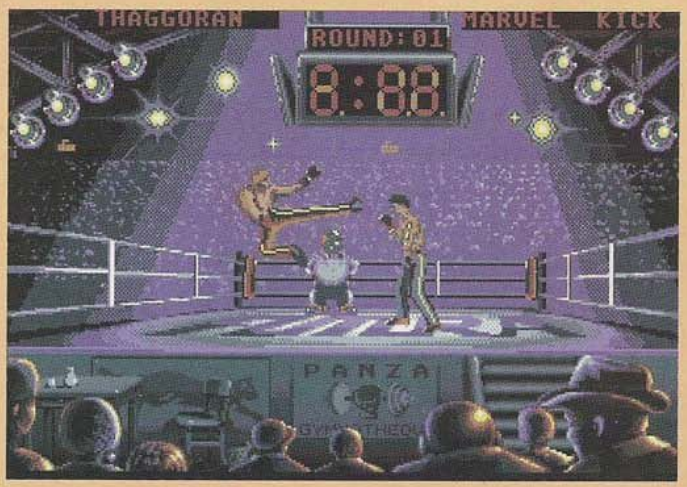
After training vigorously for some time I decided to have a spar with an opponent. Who was I going to pick? There are eight boxers to beat the brains out of, starting with the easy Dom Weak and ending with the ultimate confrontation - Andre Panza. Remember, don't get this guy mixed up with Andy Pandy. He's tough ...

Before I could actually fight an opponent I had to pick which blows I was going to use. There are a massive 55 blows to choose from, but you can only use 13 in a game. I picked my blows, picked my opponent (Dom Weak), picked my nose and went to the ring.

When you enter the ring you will notice two sets of lights above the boxers. These are their energy bars. Whenever a boxer is hit with a good blow the lights dim. When the lights are completely out the fight is over.

Panza has a great feature that I haven't seen on a boxing game before - a VCR. Yep, you can tape yourself getting beaten to a pulp by the best and replay it in slow motion. It's great fun after a fight to pick out the other boxers' weaknesses. It's also great to find out yours. When in slow motion you can see your opponent's face get kicked in and see the saliva spray out of his mouth. When you beat him or he beats you, you will be given a standing ovation by delirious crowds.

Panza Kick Boxing has superb graphics. There is no music but it is made up for with great sound effects. There are 75 digitized blows, falls, foils and more than 600 combat positions. This game will impress you with the variety of movements, and astound you with its realism and the perfection of its animation. All in all *Panza Kick Boxing* is sure to become a hit with sports sim fans, and it will probably be the best for a long time yet. So what are you waiting for? Put on your gloves and your gumshield and get into the ring! ❑



Distributed by:
Mindscape
02 899 2277

RRP:

Amiga	$59.95

Ratings:

Graphics:	83%
Sound:	78%
Instructions:	85%
Overall:	**83%**

FUTURA

Amiga Annual 1991

ESSENTIAL READING

☆ Complete up to date list of software available in Australia with description, price, availability, etc

☆ User Group List ☆ Fish Disk List ☆ Graphics ☆ Word processing

☆ Databases ☆ Hard Drives

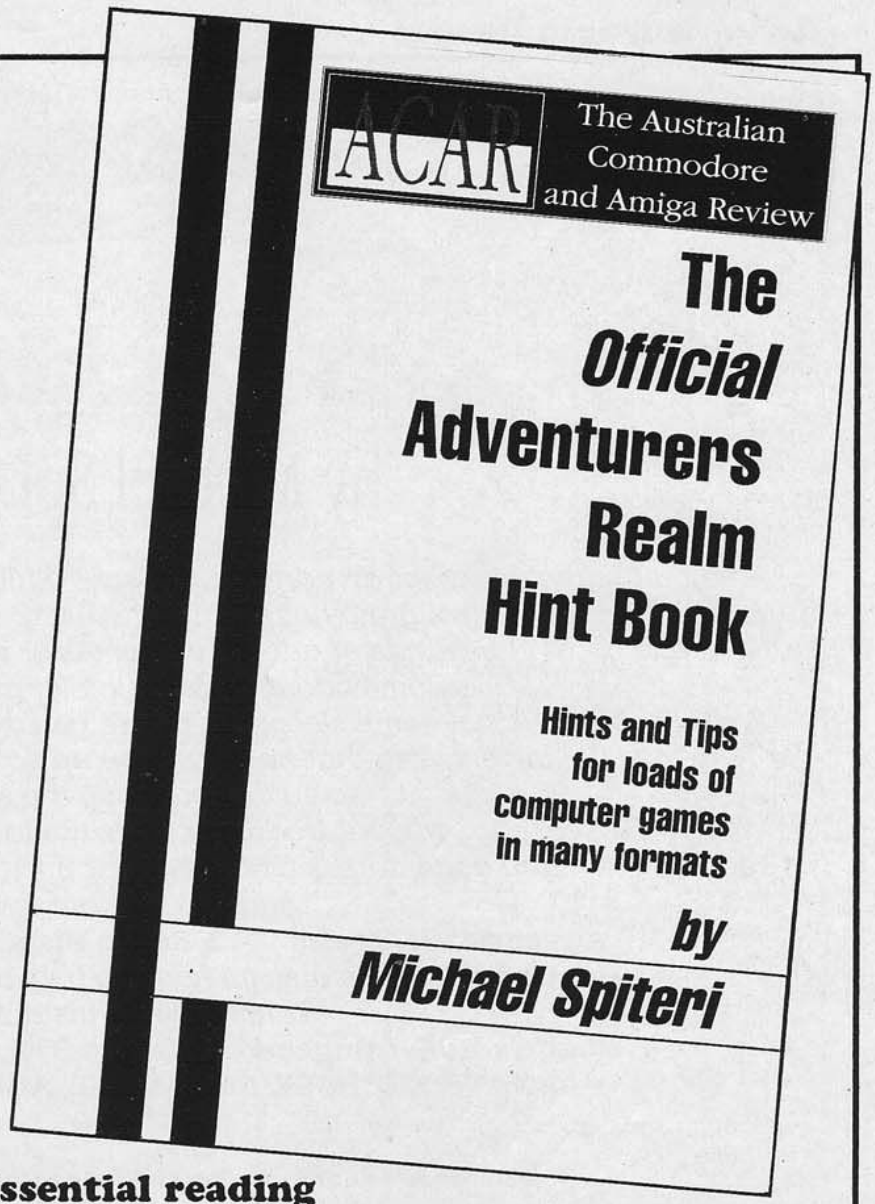
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Adventurer's Realm

by Michael Spiteri

Are you a late-nighter, or an early-morninger? Still plugging away at the keyboard, as the bags under your eyes grow heavier and heavier? There is a good chance that you are stuck in one of the thousands of adventure games or role-playing games now available for the Commodore 64 & Amiga (or even the Vic-20!).

Well, you'd better get some sleep, but before you do, write a letter to the Realm asking for help to solve the problem that has kept you up so late. There are also free hint sheets to guide you along the way ...

If you are a seasoned adventurer who can relate to the above, then maybe you can help some of the many adventurers who are stuck by sending in your hints and tips. The address to write to is:

Adventurers Realm 12 Bridle Place, Pakenham, Vic 3810

Kamikaze Andy is also on hand to help out in role-playing games. Write to him in his dungeon:

Realm's RPG Dungeon P.O.Box 315, Maddington, WA 6109

*** ALWAYS ENCLOSE A STAMPED ADDRESSED ENVELOPE ***

Realm's Official Vic BBS

You cannot get a more Official BBS than the one in Werribee. Of course, I am talking about Island BBS - (03)7423993. There is a special Adventurers Realm section where you can air your grievances and download hints and tips. Available seven days a week, and 24hrs a day, and now also offering a very very attractive membership offer (you won't believe how low the price is!)

Realm Chit Chat

Justin Prime wants to know where he can find *Curse of Azure Bonds* and *Secret of the Silverblades* for the Amiga. There seem to be quite a few of C64 and IBM versions floating around - but nothing for the old Amiga. He is also having problems looking for *Zork Zero* and other Infocom games.

M.S: Infocom games have always been hard to get hold of, and now that they have gone under, it would be just about impossible to track some down, except in the second-hand market.

Can anyone help out regarding the D&D games, though?

Stuart George would like to comment on a clever contact. "In the Troubled Adventurers part (April issue) there is a guy called Martin McLaren who asks several questions about *Pool of Radiance*, and it just so happens that Martin is also a clever contact - and *Pool of Radiance* is one of the games he said he could help with. Why is he asking questions about it? I thought clever contacts were people who have completed games and can help, not for people who have only partly finished the games?"

M.S: We could have another Perry Mason adventure out of this: Perry Mason and the Case of the Not So Clever Clever Contact.

Anyhow Stuart, you don't necessarily have to fully complete the game to be a clever contact (though it helps!). If you have made some headway in a game - enough to help someone who is stuck earlier in the game, then you could be called Quite a Clever Contact, or Nearly a Clever Contact. In many games, especially the larger ones, you can never be sure how close you are to solving it - even if you've solved heaps of problems!

The Dungeon by Kamikaze Andy

Last month I discussed the possible impact of Commodore's CDTV on the adventure game market. The expanded storage capabilities of a CD (around 550 Megabytes!) will certainly make it easier for software companies to release graphics and sound intensive games for Amiga owners. Currently, a game like Sierra's *King's Quest V* already spans a huge number of 3.5 inch disks, a sign of the massive amounts of memory being needed by the most sophisticated of today's software products.

However, it will probably take some time (at least a year) before software designers fully harness the power of CD technology. So what about the role playing games of today, which still require lots of memory and lots of disk space?

Hard drive option

The most viable option is the hard disk drive. Prices of Amiga Hard Disks have dropped dramatically, and realistically, Amiga owners do need a hard drive. Most games for the Amiga now come on multiple disks (Sierra on average, release Amiga games with five disks; Sir-Tech's *Bane of the Cosmic Forge* was on five disks; SSI usually produce three to four disk games, and so on). Amiga software developers are beginning to recognize that most Amiga owners out there do have (or will have) a hard disk, and thus will design their products accordingly. Almost every game you buy now is hard disk installable. A 40 Megabyte hard disk has become as vital as a megabyte of memory, or two disk drives.

Speaking of SSI, their hard disk installable *Renegade Legion: Interceptor* will be on the shelves very shortly now, though only featuring 16 colour graphics. AD&D fans can also pick up *Secret of the Silver Blades*, the long awaited Amiga conversion of its C64 classic, next month. A sequel to *Silver Blades* will be out for C64 in October, and on Amiga in December. Meanwhile, look out for *Shadow Sorcerer*, an isometric and puzzle orientated AD&D title which will also feature AD&D Second Edition rules.

Captive has been one of Mindscape's most popular RPG titles, and you can experience more aliens and more combat in the new *Captive Extra Missions* disk, available now on Amiga. The inevitable sequel, the brilliantly titled *Captive II*, should be released around Christmas.

The final month of the year is popular with software publishers (probably because 'tis the season to go shopping...tra-la-la-la-la..) and Interplay has *Dragon Wars II* as well as *Mean Time* (a time travelling RPG) slated for the festive season. If we're lucky, Origin will also unveil the Amiga version of *Wing Commander II*, but with their current backlog of Amiga conversions, sometime next year seems to be a more likely date.

Raunchy release

Fans of Steve Meretzky (*Planetfall, Leather Goddesses of Phobos*, etc) will undoubtedly have purchased his latest raunchy release, *Spellcasting 101: Sorcerers Get All the Girls*. Well, if you've managed to direct hero Ernie Eaglebeak in saving his Sorcerer's University (as well as scoring with every girl in sight!), Meretzky has come up with *Spellcasting 202!* The interface will be the same as *Spellcasting 101*, with emphasis on the text parser and those annoyingly addictive Meretzky puzzles.

If you can't wait, publishers Legend Entertainment has released *Timequest*, a Bob Bates adventure that also uses the same format. Bates, who authored the late Infocom's *Arthur* and *Sherlock* text adventures, has designed a time travel (seems a popular subject these days!) scenario in which you chase an evil wrongdoer through various historical periods, trying to prevent him from changing the course of history. As with all of Bates' other games, *Timequest* has been researched thoroughly and with great historical detail.

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Help, Help & more Help or the Smart Adventurers Dept.

If you were pulling your hair out a few months back, you should have grown it all back again in time to tackle newer problems, as your original problems get solved here this month!

Many thanks to all who contributed to this section, your help will be greatly appreciated, I can assure you.

Game: Pool of Radiance
For: Martin McLaren (March Issue)
From: Kristian Adamson, Stuart George, and Joel Williams.
Help: To stop pollution of Stojanow River, you must use the teleports and throw three rocks or stones. Do this until you reach an L shaped corridor. Use the teleport again and go through the door and destroy all the equipment. Don't kill the Lizard Man. There is no way of being attacked at Zhentil Keep, you must find your way out - and stand guard at night! The Pool and Tyranthraxus are in the hedge maze at Valjevo Castle. Before you go in there, enter all the rooms around the castle. Don't steal from Lordbane until you have been in all the rooms. Some of the Journal Entries you find at the House of Bivant are maps of the maze.

Note: Joel is currently mapping the castle of *Pool of Radiance*, showing where the two Tyranthraxus' are (the real one is a dragon). Send a stamped addressed envelope to: Joel Williams, P.O.Box 309, Birdwood, S.A.5234

Game: Neuromancer
For: Colin Smith (February Issue - disguised as Jan issue).
From: Justin Prime
Help: Accept the job offer by Armitage on the PAX. After sending a message to Armitage, show up at the meeting place and get arrested. The lawyer should do all the work.

Game: Operation Stealth
For: Noel McAskill (April Issue)
From: Stuart George
Help: To rescue the girl, wait until you hit the sea bed and then operate the bracelet. Swim over to the girl quickly and operate girl (!).

Game: Venom
For: Beverly Deegan (April Issue)
From: Stuart George
Help: Tell Harg to drop his sword, then take it and you should be able to control him. To enter the tap room, move a barrel as soon as the innkeeper enters. Open the trapdoor as soon ashe leaves, and climb down.

Game: Asylum
For: Scott Pitcher (April Issue)
Help: To stop the exterminator, tiptoe outside, enter and tie him up with the rope. Wear the rat suit.

CLEVER CONTACTS

Stuart George (66 Sharon Road, Springvale, Vic 3171), can now help in *Police Quest I,II, Space Quest I, Larry I and Gold Rush*, in addition to *Pool of Radiance, Fish, Zak, Bards I.II.III, Wonderland*, and *King Solomon's Mines*.

Also, the wrong postcode was printed of David McKinney of 126 Norton St, Leichhardt. It should have been 2040 (NSW). David can offer help in *Hobbit, ZZZZ, Dracula, Bards series, Pool of Radiance, Ultima 3-4, Hitchhikers, Dungeon Master, Champions of Crynn, Curse of Azure Bonds, Corporation*, and *Kings Quest I.*

Free Hint Sheets

The following hint sheets are free, free, free!!!!

Just select up to four, write them on the back of an envelope, containing a stamped addressed envelope, and send it to:

Free Hint Sheets, 12 Bridle Place, Pakenham, Vic 3810

Hint sheets include....

Zak McKracken, Indy, Guild of Thieves, Jinxter, Pawn, Fish, Maniac Mansion, Uninvited, Bard Tale I,II,III, Zork I,II,III, Hitchhikers Guide, Faery tale, Borrowed Time, NeverEndingStory, Deja Vu, Dracula Pt2, Adventureland, Pirate Adventure, Hobbit.

Game: Mortville Manor
For: Ben Falcone (March Issue)
From: Noel McAskill
Help: Murielle is Julia's Lady Companion. There are two orbs - one has a slot into which you can put the coin in and then turn it.

Problems, Problems & more Problems or the Troubled Adventurers Dept.

Stuart George, helper of many an adventurer, and hot player of Revenge of the Not So Clever Contacts, is currently stuck in a few games. Firstly, in *Kings Quest 4*, where can he find a feather and how does he get rid of the troll in the cave behind the waterfall? Also how does he enter the Giant's place. In *Rebel Planet*, how does he fix the scooter?

Dave Randall of Newport in Victoria is stuck in two games. In *Camelot*, how does he cross the desert? He is carrying nothing to get him past the cobras, and if he uses the lodestone to get across, he dies of thirst. Then, in *Heroes Quest*, how does Dave get through the bandits fortress? Should he use the magic carpet? Help wanted very badly!!!

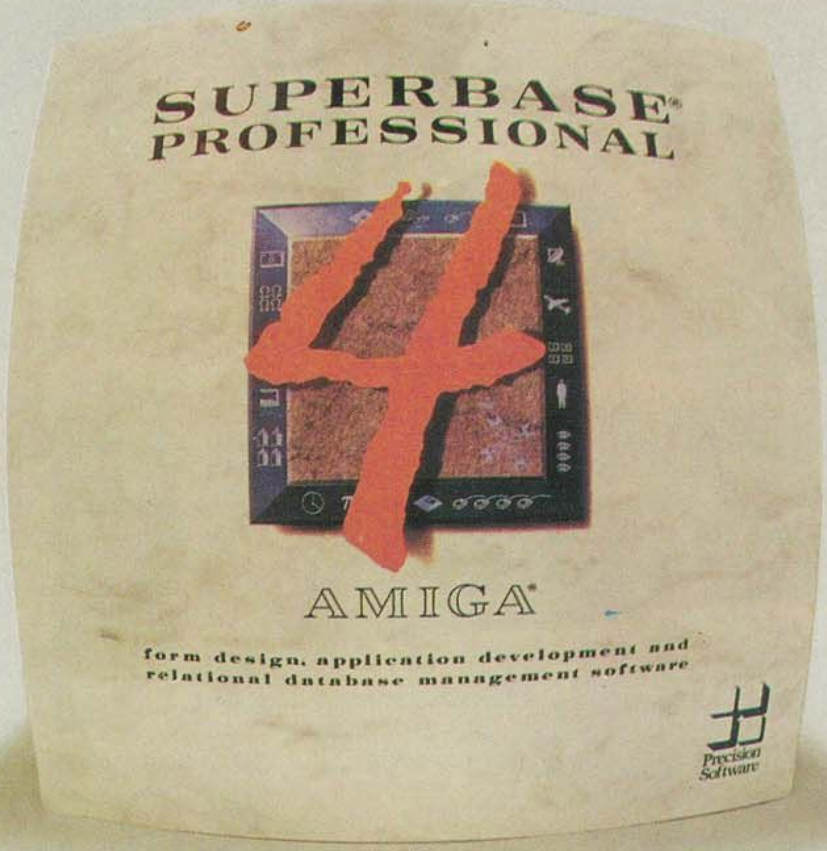
The third and final person stuck is Daniel Marti of Randwick in NSW. He is stuck in one of those "not so challenging" (Kamikaze Andy quote) riddles in *Legend of Faerghail*. The riddle is as follows....

What is it, that not many like, but directs even the greatest of King's actions. It's much like a sword, and made to hurt, but it never draws blood even though wounding thousands. It thieves no-one but it does make rich. It spans the whole Earth and makes life fit. The greatest Kingdoms it has founded, and built the oldest of them all; but never has it begun a war and the peoples who trust in it will live in plenty for ever more...What is it?

(MS: Well the answer is certainly not RIDDLE, however it might have a Biblical meaning...)

Daniel also wants to know what to do with the blacksmith who seems to be waiting for something. Any takers?

One more ... *The Realm of Darkness* is still the game, and the mirror is still the problem. Someone must have played this game!!! ❑



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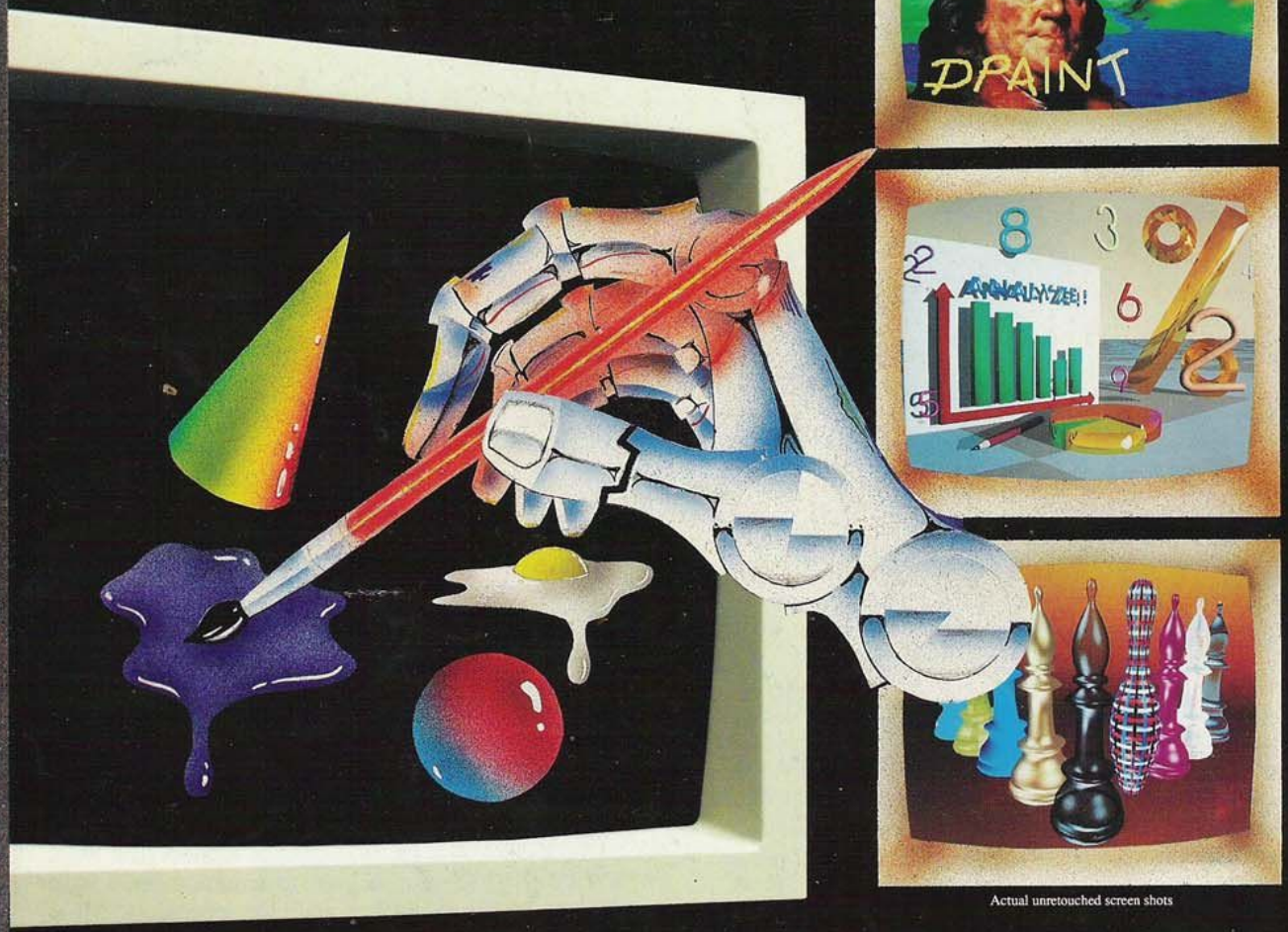
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